

**MASTER
NEGATIVE
NO.95-82373-5**

COPYRIGHT STATEMENT

The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted materials including foreign works under certain conditions. In addition, the United States extends protection to foreign works by means of various international conventions, bilateral agreements, and proclamations.

Under certain conditions specified in the law, libraries and archives are authorized to furnish a photocopy or other reproduction. One of these specified conditions is that the photocopy or reproduction is not to be "used for any purpose other than private study, scholarship, or research." If a user makes a request for, or later uses, a photocopy or reproduction for purposes in excess of "fair use," that user may be liable for copyright infringement.

The Columbia University Libraries reserve the right to refuse to accept a copying order if, in its judgement, fulfillment of the order would involve violation of the copyright law.

Author:

U.S. Office of Price
Administration

Title:

Prices of new machine
tools

Place:

Washington, D.C.

Date:

1943

95-82373-5

MASTER NEGATIVE #

COLUMBIA UNIVERSITY LIBRARIES
PRESERVATION DIVISION

BIBLIOGRAPHIC MICROFORM TARGET

ORIGINAL MATERIAL AS FILMED - EXISTING BIBLIOGRAPHIC RECORD

BUSINESS

321

Un341

U. S. Office of price administration. Industrial manufacturing price division.

Prices of new machine tools, as of March 1, 1941 (revised) used to establish maximum price of second-hand machine tools as defined in maximum price regulation no. 1. Compiled by United States of America, Office of price administration, Industrial manufacturing price division, Machine tool section. Washington, U. S. Govt. print. off., 1943.

ix, 414 p. incl. tables, 23^{cm}.
For earlier edition see entry under U. S. Office of production management.
1. Machine-tools—Trade and manufacture—U. S.

43-50500

Library of Congress

HD9703.U5A4 1941 c

[4]

338.5276219

Cmc

RESTRICTIONS ON USE:

TECHNICAL MICROFORM DATA

FILM SIZE: 35mm REDUCTION RATIO: 12X IMAGE PLACEMENT: IA IIA IB IIB

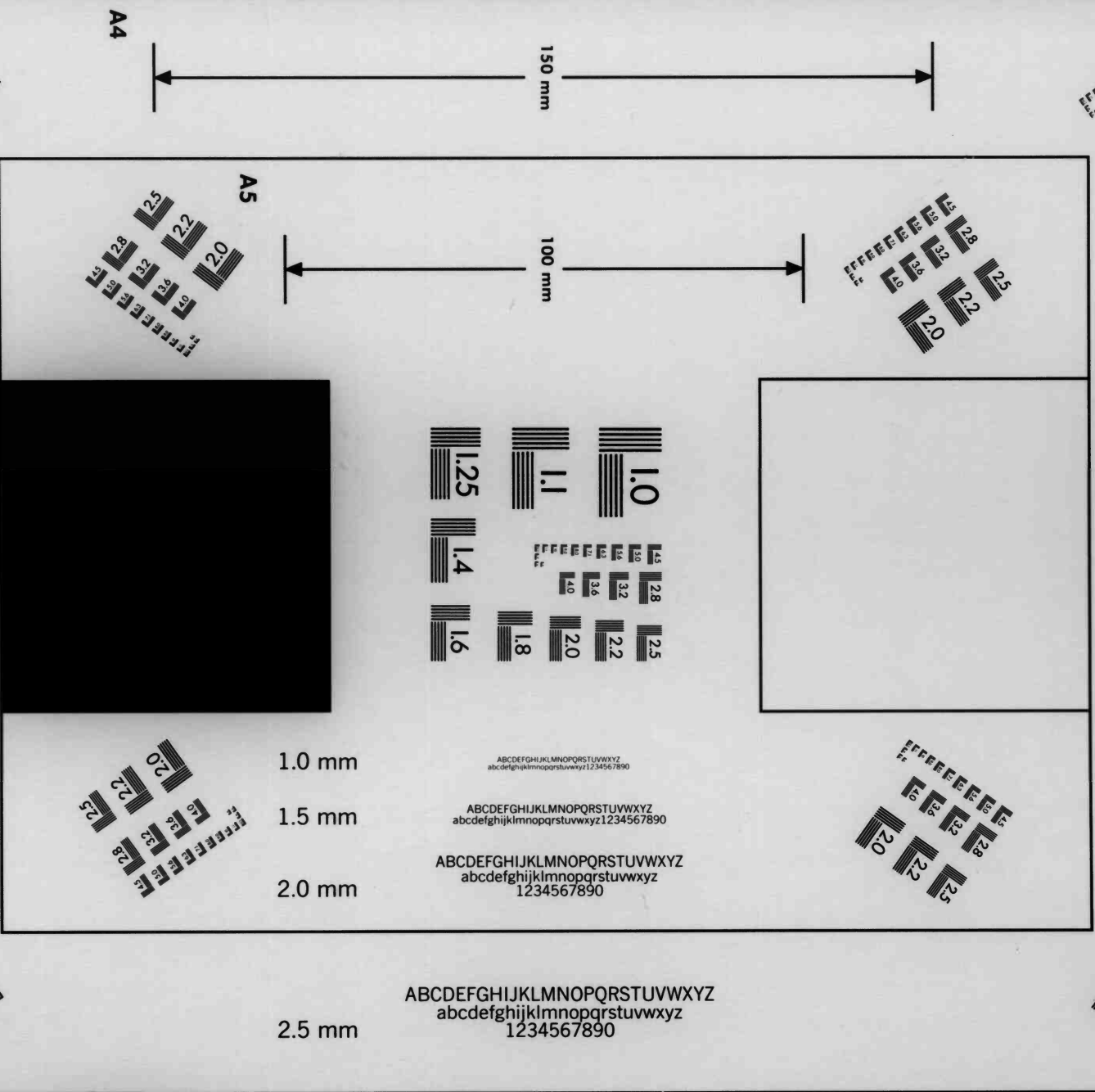
DATE FILMED: 2/20/93 INITIALS: RT

TRACKING #: MSH 03209

FILMED BY PRESERVATION RESOURCES, BETHLEHEM, PA.

2.0 mm
1.5 mm
ABCEFGHIJKLMNOPQRSTUVWXYZ
abcde fghijklmnopqrstu vwx yz 1234567890
ABCEFGHIJKLMNOPQRSTUVWXYZ
abcde fghijklmnopqrstu vwx yz 1234567890

PM-MGP 13"x18"
METRIC GENERAL PURPOSE TARGET
PHOTOGRAPHIC



PRECISIONSM RESOLUTION TARGETS



1303 Geneva Avenue
St. Paul, MN 55119

ABCEFGHIJKLMNOPQRSTUVWXYZ
abcde fghijklmnopqrstu vwx yz
1234567890

4.5 mm
3.5 mm
ABCEFGHIJKLMNOPQRSTUVWXYZ
abcde fghijklmnopqrstu vwx yz 1234567890

041

Prices of New Machine Tools

as of March 1, 1941

(Revised)

USED TO ESTABLISH MAXIMUM
PRICES OF SECOND-HAND MACHINE
TOOLS AS DEFINED IN MAXIMUM
PRICE REGULATION NO. 1



WASHINGTON, D. C.

D321

Un341

Columbia University
in the City of New York

THE LIBRARIES



School of Business

AUG 15 1943

Prices of New Machine Tools

as of March 1, 1941

(Revised)

USED TO ESTABLISH MAXIMUM
PRICE OF SECOND-HAND MACHINE
TOOLS AS DEFINED IN MAXIMUM
PRICE REGULATION NO. 1



COMPILED BY
UNITED STATES OF AMERICA
OFFICE OF PRICE ADMINISTRATION
INDUSTRIAL MANUFACTURING PRICE DIVISION
MACHINE TOOL SECTION

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1943

Business

D321

Un341

USED TO ESTABLISH MAXIMUM
PRICE OF SECOND-HAND MACHINE
TOOLS AS DETERMINED BY MAXIMUM
PRICE REGULATING NO. 1



COLUMBIA
UNIVERSITY
LIBRARY

NOV 4 1943 FCR

TABLE OF CONTENTS

	Page
Foreword.....	IV
Use of Proper Form in Filing Reports.....	IX
Form 100:1 With Instructions (sample copy).....	VI
Index of Manufacturers by Type of Machines Built.....	1
Trade Names.....	7
Alphabetical Listing of Manufacturers.....	9
Equivalents on Machine Tools No Longer Manufactured.....	15
Serial Numbers.....	27
Price Data.....	66

(iii)

FOREWORD

It is the purpose of this book to establish equivalent prices for all Machine Tools in existence as of March 1, 1941. The maximum prices (exclusive of extras) would be determined in terms of percentage of the equivalent price based on the age and condition as given in section 3 (a) Maximum Price Regulation No. 1—Second-Hand Machine Tools. The equivalent price represents the March 1, 1941, price of the nearest equivalent new machine tool to the second-hand machine tool whose maximum price is being calculated. Equivalent price is also referred to in Maximum Price Regulation No. 1 as "base price."

Every reasonable care has been taken in the preparation of this book. However, in a field as broad as the Machine Tool industry it was impossible to include all the prices of every machine as of March 1, 1941. This edition of Prices of New Machine Tools, March 1, 1941, Revised, has been edited and compiled from information that has been accumulated and tabulated by this Office since its inception, and includes all makes, models, and types of Machine Tools that have come to our attention during the interim.

There has been included in this book a list of obsolete machines or machines no longer manufactured. Opposite each machine, so listed, we have put either the name of the machine tool that is to be considered the equivalent for all purposes under the regulation, a specific equivalent price, or a method of computing an equivalent price. In the regulation this equivalent price, stated or computed, is called a "base price."

HELPFUL SUGGESTIONS FOR THOSE FILING OR PREPARING SECOND-HAND MACHINE TOOL REPORTS

In order to eliminate unnecessary correspondence and to conserve time and effort for you and ourselves in filing Second-Hand Machine Tool Reports—Form No. 100:1 Revised, your cooperation is requested by observing the following:

Read and study very carefully the instructions printed on the reverse side of the Second-Hand Machine Tool Report—O. P. A. Form 100:1 (Revised), facsimile herewith.

When reporting Obsolete Machines, give complete specifications as to style, size, model, and any other details available. This information should be inserted on the report form under "item 3—Description of Machine Tools." The name and model number are not sufficient in themselves to establish an equivalent.

In reporting Lathes the rated swing should be stated as given by manufacturer. If no information is available, specifications giving actual swing over bed and carriage must be reported.

Use this book as a guide in filling in "item 9—Description of equivalent New Machine Tool," giving type, size, and explaining fully all the details in the spaces as provided in the report form. Where an equivalent or an equivalent price is specified in this book, you must use such equivalent or such price.

Care should be exercised in selecting your equivalent Machine Tool to see that the specifications are the nearest to the Machine Tool being reported. Where there is a doubt as to the selection, the matter should be referred to the Office of Price Administration, giving the serial number and full information concerning the machine in question. Photographs, catalog sheets, or other illustrations in the cases of obsolete or special design Machine Tools should be furnished if possible.

We would prefer to have all matters pertaining to prices cleared through the Office of Price Administration, as this Office is constantly receiving information relative to the age and price of machines from the manufacturers, which is added to our files.

If, however, it is necessary to write the manufacturer, then the following procedure should be adopted.

1. Ask for the year of manufacture, not date of shipment.
2. If it is known that the machine was built on March 1, 1941, and the price is not listed in the book, furnish necessary identifying data to the manufacturer and ask specifically for the March 1, 1941, price.

(IV)

3. If a machine is obsolete, the manufacturer should be asked for the last selling price and date, not for an estimated selling price as of March 1, 1941.

4. A copy of letter giving any information received from a manufacturer should then be enclosed, either with correspondence or report, to the Office of Price Administration. If it accompanies a report, notation should be made that such letter is attached.

The Office of Price Administration will set a price for the obsolete machine tool by taking an equivalent or comparable machine as published in the book, "Prices of New Machine Tools as of March 1, 1941, Revised."

In the event that an equivalent or comparable machine cannot be found in the Price Book, the Office of Price Administration will, from its experience, establish a dollar and cents price for the obsolete machine tool.

When writing this Office in the matter of prices, it is suggested that you ask for the base or equivalent prices and figure your own ceiling prices based on the age and condition of the Machine Tool. This will avoid any confusion as to the relation between the condition and age.

Notation should be made on report form of any price information obtained from the Office of Price Administration, the date of correspondence and office involved being mentioned.

In reporting extras on the Second-Hand Machine Tool Report, it is necessary in addition to the total dollar sales price of the extras as required in item 19A that you itemize these extras and their individual prices under 19B, giving trade name on those items not manufactured by the maker of the Machine Tool being reported. The same detailed information should be given on the invoice that is sent to the purchaser.

In reporting prices of machines and their extras, it is only necessary that you report an even dollar, i. e., where the price includes a fraction of a dollar, the next highest dollar may be reported.

SAMPLE OF A SOLD REPORT (Correctly filled out by a dealer)

FORM APPROVED
BUREAU NO. 10-102

UNITED STATES OF AMERICA
OFFICE OF PRICE ADMINISTRATION
AND
WAR PRODUCTION BOARD

SECOND-HAND MACHINE TOOL REPORT

To Be Used By Dealers, Auctioneers, Brokers, and All Other Persons Subject to Maximum Price Regulation No. 1—Second-Hand Machine Tools—in reporting offering prices or additions to stock and sales, leases or rentals.

IMPORTANT INSTRUCTIONS

TO DEALERS, AUCTIONEERS AND BROKERS.—Prepare five (5) copies only when reporting offering price or addition to stock. (Check applicable box below to identify each copy.)

☐ COPY 1.—Send to your Regional Office, Office of Price Administration, within one week after acquiring machine tool.

☐ COPY 2.—Send to the War Production Board, Tools Division, Washington, D. C., within one week after acquiring machine tool.

☒ COPY 3.—Hold until machine is sold, leased, or rented, then send it within one week to your Regional Office, Office of Price Administration.

☐ COPY 4.—Hold until machine is sold, leased, or rented, then send it within one week to the War Production Board, Tools Division, Washington, D. C.

☐ COPY 5.—Retain for your permanent record as required by Section 9 (a) (1) of Maximum Price Regulation No. 1.

TO PERSONS OTHER THAN DEALERS, AUCTIONEERS, AND BROKERS.—Prepare only three (3) copies when reporting a sale, lease or rental, except under broker, this report is not required.

COPY 1.—Send to your Regional Office, Office of Price Administration, within one week after making sale, lease or rental.

COPY 2.—Send to the War Production Board, Tools Division, Washington, D. C., within one week after making sale, lease or rental.

COPY 3.—Retain for your permanent record as required by Section 9 (a) (1) of Maximum Price Regulation No. 1.

I.—REPORT OF OFFERING PRICE OR ADDITION TO STOCK
(See item instructions on reverse side.)

1 INVENTORY NO. OF MACHINE TOOL
501

2 DATE INVENTORY NO. ASSIGNED
Feb. 1, 1943

3 DESCRIPTION OF MACHINE TOOL

A MAKE
X-Y-Z LATHE

B TYPE
ENGINE

C SIZE
14" X 10"

D DETAILS (DESCRIBE FULLY)
QUICK CHANGE
BACK GEARED - 4 STEP CONE
MOTORIZED WITH LIMA GEAR
SHIFT DRIVE

(If additional space is required, attach separate sheet.)

4 MANUFACTURER'S SERIAL NO.
12345

5 DRIVE (CHECK ONE)
☐ SEARED HEAD ☒ OTHER THAN SEARED HEAD

6 AGE CLASSIFICATION (CHECK ONE)
CLASS: ☐ 1 ☐ 2 ☒ 3 ☐ 4

7 PRESENT CONDITION (CHECK ONE)
☐ REBUILT AND GUARANTEED ☒ OTHER CONDITION

8 IS MACHINE TOOL JOINTLY OWNED? (CHECK ONE)
☐ YES ☒ NO

NAME OF BUSINESS
JONES MACHINERY COMPANY

ADDRESS—NUMBER AND STREET
10 BROADWAY

CITY AND STATE
SYRACUSE, NEW YORK

9 Description of Equivalent New Machine Tool.

A MAKE
AMERICAN TOOL WORKS

B TYPE
PACEMAKER

C SIZE
14" X 30"

D DETAILS (DESCRIBE FULLY)
PACEMAKER—PLUS 4" OF BED

(If additional space is required, attach separate sheet.)

10 Price of Equivalent New Machine Tool \$ 3500.

11 Offering Price of Machine Tool and Attachments Only

A \$
B \$ 1975.

12 Offering Price of Extras Only

A Total \$ 400.

B ITEMIZATION AND PRICES

TAPER ATTACHMENT \$136.
55% OF \$250.
LIMA DRIVE (NEW) 195.
1-UNION - 4 JAW INDEPENDENT CHUCK (NEW) 150.

(If additional space is required, attach separate sheet.)

II.—REPORT OF SALE, LEASE OR RENTAL
(See item instructions on reverse side.)

13 DATE
April 1, 1943

14 CONDITION (CHECK ONE)
☐ REBUILT AND GUARANTEED ☒ OTHER CONDITION

15 NATURE OF DISPOSITION (CHECK ONE)
☐ SALE ☐ LEASE ☐ RENTAL

16 PRICE OF MACHINE TOOL AND ATTACHMENTS ONLY
\$ 1800.

17 IF LEASE OR RENTAL, SHOW HOURS OF OPERATION (CHECK ONE)
☐ HRS. ☐ 16 HRS. ☐ 24 HRS.

18 IF LEASE OR RENTAL, SHOW USE (CHECK ONE)
☐ GENERAL USE ☐ OUTDOOR USE

19 Price of Extras Only

A Total \$ 470.

B ITEMIZATION AND PRICES

TAPER ATTACHMENT \$125.
LIMA DRIVE (NEW) 195.
1-UNION 4-JAW IND. CHUCK (NEW) 150.

(If additional space is required, attach separate sheet.)

20 To Whom was Machine Tool Sold, Leased or Rented

A NAME
D. E. F. MACHINE SHOP

B ADDRESS—NUMBER AND STREET
1 BROADWAY

C CITY AND STATE
BUFFALO, NEW YORK

21 NATURE OF PURCHASER'S BUSINESS (CHECK ONE)
☐ DEALER ☒ USER

22 HAS MACHINE TOOL BEEN PREVIOUSLY REPORTED AS AN ADDITION TO STOCK? (CHECK ONE)
☐ YES ☒ NO

SIGNATURE OF OWNER OR AUTHORIZED REPRESENTATIVE
(Signed) A. B. JONES

TITLE
SECRETARY

(VI)

INSTRUCTIONS FOR PREPARING SECOND-HAND MACHINE TOOL REPORT

NOTE.—A report is required on each floor type second-hand machine tool and on each other type of second-hand machine tool which has an offering or sale price of \$100 or more.

PART I. REPORT OF OFFERING PRICE OR ADDITION TO STOCK

NOTE.—Part I of this report is to be prepared by dealers, auctioneers, and brokers when a machine tool is added to stock, and is to be sent in accordance with the "Important Instructions" on the front of this sheet. Use the check boxes to identify each copy. Other persons subject to this regulation, and dealers, auctioneers, and brokers that have sold a machine tool within one week after it was acquired and before the report of addition to stock is sent, shall prepare Part I, "Report of Offering Price," and include it with Part II, "Report of Sale, Lease, or Rental," in accordance with the "Important Instructions" to persons other than dealers, auctioneers, and brokers on the front of this sheet.

Item 1. **INVENTORY NUMBER OF MACHINE TOOL.**—In reporting this item, assign a separate number to each machine tool. The number which is carried on your books will serve this purpose. Use the number in referring to the machine tool in all correspondence with the Office of Price Administration or the War Production Board.

Item 2. **DATE INVENTORY NUMBER ASSIGNED.**—Use the date March 15, 1941, for all machine tools in dealer's, auctioneer's, or broker's stock, or owned by other persons subject to this regulation on or before that date. Give the date of purchase for all machine tools added to stock or installed for use after that date.

Item 3. **DESCRIPTION OF MACHINE TOOL.**—Care should be taken to give full details in part (d) as well as to (a) make, (b) type, and (c) size, of the machine tool so that the report can be adequately compared with the description of an equivalent new machine tool as listed in Item 9 below. If machine is not currently built or is of special design, furnish complete details including illustrations or photographs to assist in determining proper equivalent machine or base price.

Item 4. **MANUFACTURER'S SERIAL NUMBER.**—The serial number of the machine tool shall be reported for all machine tools reported in age Classes 1, 2, and 3. (See Instructions, Item 6, below.) The reporting of this item is not required for machine tools placed in Class 4, except where the insertion of the number will help to identify the machine.

Item 5. **DRIVE.**—Check the original drive of the machine tool. Machine tools which were originally manufactured as pulley driven or stepped cone driven are not equivalent to geared head machines even though subsequently motorized, therefore, they must be reported as "other than geared head" machines.

Item 6. **AGE CLASSIFICATION.**—Class 1, machine tools manufactured on January 1, 1930 to December 31, 1935; Class 2, machine tools manufactured from January 1, 1920 to December 31, 1929; and Class 4, machine tools manufactured before January 1, 1920. Where the manufacturer's serial number and year of manufacture are not known, the machine must be placed in Class 4.

Item 7. **PRESENT CONDITION OF THE MACHINE TOOL.**—Check the present condition of the machine tool. A "rebuilt and guaranteed" machine tool is one in which worn or missing parts have been replaced or reworked, and which has been tested under power so as to prove that it has a substantially equivalent performance to that of the machine when new.

THE TERM "REBUILT AND GUARANTEED" applies only to a machine tool which (1) has been rebuilt or is in equivalent condition to a rebuilt machine tool; (2) has been tested under power so as to prove that it has a substantially equivalent performance to that of the machine when new; (3) carries a binding written guaranty of satisfactory performance for a period of not less than 30 days from date of shipment; and (4) is expressly invoiced as a rebuilt machine tool or its equivalent and as guaranteed for satisfactory operation for 30 days.

THE TERM "OTHER CONDITION" applies to all machine tools other than those which meet the above conditions. A machine in any manner or form other than rebuilt and guaranteed will be considered as in "other condition."

Item 8. **JOINT OWNERS.**—If the machine tool is jointly owned, indicate by checking opposite "Yes," otherwise check opposite "No."

Item 9. **DESCRIPTION OF EQUIVALENT NEW MACHINE TOOL.**—Care should be taken to give full details in part (d) as well as to (a) make, (b) type, and (c) size, of the machine tool so that the report can be adequately compared with the description of the second-hand machine tool as listed in Item 3 above.

Item 10. **PRICE OF EQUIVALENT NEW MACHINE TOOL.**—Enter the manufacturer's March 1, 1941, list price of an equivalent new machine tool which is substantially similar in design and construction to the second-hand machine tool reported in Item 9 above. In cases where a machine tool is "other than a geared head machine" and the equivalent new machine tool is a geared head machine, determine the price of the second-hand machine tool by deducting twenty percent (20%) from the March 1, 1941, manufacturer's list price of the equivalent geared head machine tool. (See Instructions, Item 5, above.)

Item 11. **OFFERING PRICE OF MACHINE TOOL AND ATTACHMENTS ONLY.**—The maximum prices of machine tools (exclusive of all extras) shall be in terms of percentages of the March 1, 1941, manufacturer's list prices of determined equivalent new machine tools according to the following age classes:

Machine tool condition classification	Machine tool age classification			
	Class 1 (Jan. 1, 1936 and after)	Class 2 (Jan. 1, 1930, to Dec. 31, 1935)	Class 3 (Jan. 1, 1920, to Dec. 31, 1929)	Class 4 (before Jan. 1, 1920)
(a) Rebuilt and guaranteed	Percent 95	Percent 90	Percent 80	Percent 70
(b) Other condition	70	65	55	45

(VII)

VIII

Item 12. OFFERING PRICE OF EXTRAS ONLY—

(a) TOTAL.—Show the total offering price of machine tool extras. Second-hand machine tool extras are subject to the same maximum price percentage that is applicable to the basic second-hand machine tool with which the extras are sold. (See instructions, item 11, above.)

(b) ITEMIZATION AND PRICES.—All extras must be separately itemized, and each offering price must be included. The total of the prices should equal the amount inserted in part (a) above.

PART II. REPORT OF SALE, LEASE, OR RENTAL

NOTE.—Part II of this report is to be prepared by all persons subject to this regulation and is to be sent in accordance with the "Important Instructions" on the front of this sheet, except under the following condition. When a machine tool user sells to a dealer, auctioneer, or broker for resale, this report is not required. Dealers, auctioneers, and brokers are to use copies three and four of the report, "Part I, Report of Addition to Stock," that was previously sent in accordance with the "Important Instructions" on the front of this sheet, using the check boxes to identify each copy. Part II of this report is to be prepared when a machine tool is ordered. If the order is later cancelled, please advise your Regional Office, Office of Price Administration, and the War Production Board, Tools Division, Washington, D. C.

Item 13. DATE OF SALE, LEASE, OR RENTAL.—Specify the date on which order was accepted.

Item 14. CONDITION OF MACHINE TOOL WHEN SOLD, LEASED, OR RENTED.—For description of condition of the machine tool, see instructions, item 7, above.

Item 15. NATURE OF THE DISPOSITION OF THE MACHINE TOOL.—Check the nature of the disposition of the machine tool as to sale, lease, or rental.

Item 16. SALE, LEASE, OR RENTAL PRICE OF MACHINE TOOL AND ATTACHMENTS ONLY.—Show the invoice price of the machine tool exclusive of all extras.

ANNUAL RENTAL BASIS FOR ANY LEASE OR RENTAL.—The maximum annual rental for any lease or rental entered into subsequent to July 26, 1943, for a second-hand machine tool or extra, shall be computed by using the applicable rental percentage set forth in the following table as applied to the maximum sale price computed in accordance with item 11, above.

Machine tool use classification	Hours of operation		
	8-hour operation	16-hour operation	24-hour operation
	Percent	Percent	Percent
General use of machine tool.....	25	30	35
Outdoor use of machine tool designed for indoor use.....	35	45	55

LESS THAN ANNUAL RENTAL BASIS FOR ANY LEASE OR RENTAL.—The maximum daily rental shall be one two-hundredth of the annual rental; the maximum monthly rental shall be one-tenth of the annual rental. See Section 6 (c) of Maximum Price Regulation No. 1 for restrictions on use of daily or monthly rental rates.

Item 17. HOURS OF OPERATION.—Check the hours of operation of the machine tool if lease or rental.

Item 18. USE OF MACHINE TOOL ON LEASE OR RENTAL.—Check the machine tool use according to "General use of machine tool," or "Outdoor use of machine tool designed for indoor use."

Item 19. PRICE OF EXTRAS ONLY WHEN SOLD, LEASED, OR RENTED.—

(a) TOTAL.—Show the total sale, lease, or rental price of the extras. This amount must be shown on the invoice.

(b) ITEMIZATION AND PRICES.—All extras must be separately itemized, and each price must be included. The total of the prices should equal the amount inserted in part (a) above. These items and prices must be shown on the invoice.

Item 20. TO WHOM WAS MACHINE TOOL SOLD, LEASED, OR RENTED?—Show under parts (a), (b), and (c), the name and address of the purchaser, lessee, or renter.

Item 21. NATURE OF PURCHASER'S BUSINESS.—If the machine tool was purchased by a dealer for resale, indicate by checking opposite "Dealer," otherwise check opposite "Ultimate User."

Item 22. HAS MACHINE TOOL BEEN PREVIOUSLY REPORTED AS AN ADDITION TO STOCK?—Dealers, auctioneers, and brokers are to check opposite "Yes" when a report "Part I, Report of Addition to Stock" has been filed at a previous date. Other persons subject to this regulation check opposite "No."

USE OF PROPER FORM IN FILING REPORTS

For the purposes of this regulation, second-hand machine tools are defined in Section 1 (b) of Maximum Price Regulation No. 1 as follows:

A "second-hand machine tool" is a machine tool which has been used. The term "machine tool" means all machines (except portable machine tools) for the cutting (except heat cutting), abrading, shaping, forming, straightening and forcing of metals. A "second-hand extra" means any used attachment for a machine tool which is standard supplementary equipment normally furnished by the manufacturer at additional cost to his price of the machine tool, any used attachment for a machine tool manufactured by a person other than the manufacturer of the machine tool to which it is to be attached, and all used attachments sold separately as replacements.

All other second-hand machinery must be reported on Form 2:10:P1 Revised.

(IX)

INDEX OF MACHINE TOOL MANUFACTURERS CLASSIFIED ACCORDING TO TYPE OF MACHINES BUILT ON MARCH 1, 1941

	Page		Page
AUTOMATICS (Bar and Chucking):		BULLDOZERS. (See Presses):	
Brown & Sharpe Mfg. Co.....	116	Kling Bros. Eng. Works.....	273
Cleveland Auto Mach. Co.....	162	Williams, White & Co.....	406
Cone Auto Mach. Co.....	169	CAM MILLING. (See Milling Mach.)	
Davenport Mach. Tool Co.....	176	CENTERING:	
Goss & De Leeuw Mach. Co.....	228	Sundstrand Mach. Tool Co....	383
Greenlee Bros. & Co.....	236	Whiton, D. E. Mach.....	404
National Acme Co.....	316	CHAMBERING:	
New Britain Mach. Co.....	332	Pratt & Whitney.....	351
Potter & Johnston Mach. Co.....	350	CHAMFERING:	
BENDING. (See Brakes):		Cross Gear & Mach. Co.....	175
Buffalo Forge Co.....	120	Grant Mfg. & Mach. Co.....	231
Dreis & Krump Mfg. Co.....	183	Murchev Mach. & Tool Co....	315
Excelsior Tool & Mach. Co.....	194	CUT-OFF (Abrasive):	
Hendley & Whittemore.....	250	American Chain & Cable Co., Inc.....	79
Kling Bros. Eng. Works.....	273	Bignall & Keeler Co.....	104
Niagara Mach. & Tool Wks....	333	De Sanno, A. P., & Son.....	179
Pedrick Tool & Mach. Co.....	346	Modern Mach. Tool Co.....	311
Pope Machine Co.....	349	DIAMOND BORING:	
BORING MILLS (Horiz.):		Automatic Meh. Mfg. Co.....	89
Autometric Mach. Tool Co....	90	Ex-Cell-O Corp.....	193
Barrett Mach. Tool Co.....	95	Heald Mach. Co.....	248
Chisholm Ryder Co.....	153	Moline Tool Co.....	311
Cincinnati Gilbert Mach. Tool Co.....	155	Stokerunit Corp.....	378
Defiance Mach. Works, Inc....	178	DRILLS (Heavy Duty):	
Giddings & Lewis Mach. Tool Co.....	222	Baker Bros., Inc.....	92
Locomotive Finished Mat. Co.....	302	Barnes Drill Co.....	95
Lucas Mach. Tool Co.....	303	Buffalo Forge Co.....	120
Ohio Mach. Tool Co.....	341	Canedy-Otto Mfg. Co.....	137
Sellers, Wm. & Co.....	363	Cincinnati Bickford Tool Co..	153
Universal Boring Mach. Co....	392	Cleerman M. T. Co.....	161
Yoder Co.....	411	Consolidated M. T. Corp.....	169
BORING MILLS (Vertical):		Defiance Mach. Wks., Inc....	178
Bickford, H. & Co.....	104	Footte-Burte Co.....	208
Bullard Co.....	132	Fosdick Mach. Tool Co.....	209
Cincinnati Planer Co.....	158	Moline Tool Co.....	311
Consolidated Mach. Tool Co..	169	National Auto Tool Co.....	317
General Machry. Co.....	218	Royersford Fdry. & Mach. Co..	361
King Mach. Tool Co.....	272	Sibley Mach. & Fdry. Co.....	369
Roger Mach. Works, Inc.....	360	DRILLS (Multiple Spindle):	
BRAKES. (See Bending):		Baush Mach. Tool Co.....	96
Cinn. Shaper Co.....	158	Davis & Thompson Co.....	176
Dreis & Krump Mfg. Co.....	183	Hoefter Mfg. Co.....	263
Ferracute Mach. Co.....	197	National Auto-Tool Co.....	317
Niagara Mach. & Tool Works..	333	DRILLS (Radial):	
Verson All Steel Press Co....	395	American Tool Works Co.....	83
Whitney Metal Tool Co.....	403	Carlton Mach. Tool Co.....	144
BROACHING:		Cincinnati Bickford Tool Co..	153
American Broach & Mach. Co.....	78	Cincinnati Gilbert Mach. Tool Co.....	155
Cincinnati Mill & Grind Mach. Inc.....	156	Cleveland Punch & Shear Works Co.....	164
Colonial Broach Co.....	167	Dauber Co., The.....	176
Lapointe Mach. Tool.....	387	Footte-Burte Co.....	208
Oilgear Co.....	342	Fosdick Mach. Tool Co.....	209
		General Mach. Corp.....	218
		Morris Mach. Tool Co.....	313
		Western Mach. Tool Works....	402

	Page		Page
DRILLS (Sensitive):		GRINDING (Cutter and Tool)—	
Albany Hdwre. Spec. Mfg. Co.	76	Continued.	
Allen, Chas. G., Co.	76	Le Blond, R. K. Mach. Tool	291
Avey Drilling Mach. Co.	90	Co.	304
Bodine Corp.	108	McDonough Mfg. Co.	339
Buffalo Forge Co.	120	Norton Co.	343
Canedy-Otto Mfg. Co.	137	Oliver Inst. Co.	351
Champion Blower & Forge Co.	151	Pratt & Whitney	363
Edlund Mach. Co.	188	Sellers, Wm. & Co.	383
Foot-Burte Co.	208	Sundstrand, M. T. Co.	384
Fosdick Mach. Tool Co.	209	Taylor & Fenn Co.	
Frew Mach. Co.	211	GRINDING (Cylindrical):	
Henry & Wright Mfg. Co.	254	Brown & Sharpe	116
High Speed Hammer Co.	256	Cincinnati Mill. & Grind.	
Kent Mach. Co.	270	Mach. Co.	156
Kingsbury Mach. Tool Corp.	272	Fitchburg Grind. Mach. Corp.	207
Langelier Mfg. Co.	287	Heald Machine Co.	248
Leland-Gifford Co.	292	Landis Tool Co.	284
Providence Eng. Wks.	353	Norton Co.	339
Royersford Fdry. & Mach. Co.	361	Simplicity Mfg. Co.	372
Sigourney Tool Co.	371	GRINDING (Disc):	
Taylor & Fenn Co.	384	Besley, C. H. & Co.	102
Toledo General Mfg. Co.		Cin. Elect. Tool Co.	153
Walker-Turner Co., Inc.	397	Gardner Mach. Co.	217
DRILLS (Miscellaneous):		Hanchett Mfg. Co.	245
Hoefler Mfg. Co.	263	Hisey-Wolfe Mach. Co.	259
Pratt & Whitney	351	Pedrick Tool & Mach. Co.	346
FILING:		U. S. Elect. Tool Co.	389
Cochrane-Bly Co.	166	GRINDING (Internal):	
Continental Mach., Inc.	170	Bryant Chucking Grinder Co.	119
Oliver Inst. Co.	343	Heald Mach. Co.	248
FORGING. (See Hammers & Presses):		Rivett Lathe & Grinder, Inc.	258
Acme Mach. Div. of (Hill		Wicaco Mach. Corp.	405
Acme Co.)	67	GRINDING (Surface):	
Ajax Mfg. Co.	74	Abrasive Mach. Tool Co.	66
Billings & Spencer	104	Arter Grinding Mach. Co.	89
Chambersburg Eng. Co.	146	Blanchard Mach. Co.	105
Erie Fdry. Co.	189	Brown & Sharpe Mfg. Co.	116
Manville, E. J., Mach. Co.	305	Covel Mfg. Co.	170
National Mach. Co.	320	Gallmeyer & Livingston Co.	213
Pawtucket Mfg. Co.	345	Hanchett Mfg. Co.	245
Waterbury-Farrell Fdry. and		Heald Mach. Co.	248
Mach. Co.	398	Illinois Mach. & Mfg. Co.	263
FORMING. (See Bending.)		Mattison Mach. Works	309
GEAR CUTTING AND GEN-		Norton Co.	339
ERATING. (See Hob-		Pratt & Whitney	351
bing):		Reid Bros. Co.	357
Bilgram Gear Co.	104	Taft-Pierce Mfg. Co.	384
Gross Gear & Mach. Co.	175	Thompson Grinder Co.	385
Farrel & Birmingham Co.,		Walker, O. S. Co., Inc.	396
Inc.	195	GRINDING (Miscellaneous):	
Fellows Gear Shaper Co.	196	Arter Grinding Mach. Co.	89
Gleason Works	225	Baird Mach. Co.	91
Gould & Eberhardt	229	Baker Bros. Inc.	92
Lees-Bradner Co.	291	Blount, J. C. Co.	106
Newark Gear Cutting Mach.		Boyer-Schultz Corp.	109
Co.	331	Bridgeport Safety Emery	
Producto Mach. Co.	353	Wheel Co.	110
Whiton D. E. Corp.	404	Cedar Rapids Eng. Co.	146
GRINDING (Cutter and Tool):		Cincinnati Electric Tool Co.	153
Brown & Sharpe Mfg. Co.	116	Cincinnati Mill & Grind Mach.,	
Cincinnati Mill. & Grind.		Inc.	156
Mach. Co.	156	Covel Mfg. Co.	170
Covel Mfg. Co.	170	Cox & Sons Co.	174
Gallmeyer & Livingston Co.	213	Ex-Cell-O Corp.	193
		Fellows Gear Shaper Co.	196
		Fox Grinders, Inc.	211

	Page		Page
GRINDING (Miscellaneous)—		LAPPING:	
Continued.		Cincinnati Mill & Grind Mach.	
Gallmeyer & Livingston Co.	213	Inc.	156
Gear Grind Mach. Co.	217	Ex-Cell-O Corp.	193
Geometric Tool Co.	222	Fellows Gear Shaper Co.	196
Gleason Works	225	Gleason Works	225
Hammond Mach. Bldrs.	238	Michigan Tool Co.	309
Hanchett Mfg. Co.	245	National Broach & Mach. Co.	320
Hisey-Wolfe Mach. Co.	259	Norton Co.	339
Jones & Lamson Mach. Co.	268	LATHES (Engine):	
Kling Bros. Eng. Wrks.	273	American Tool Works Co.	83
Landis Mach. Co.	284	Ames, B. C. Co.	84
La Pointe M. T. Co.	287	Axelson Mfg. Co.	91
Lippman Eng. Works (Ransom		Boys & Emmes M. T. Co.	109
Grinding Mach. Co.)	297	Bradford M. T. Co.	109
Moore Special Tool Co.	312	Carroll-Jamieson M. T. Co.	145
Motch & Merryweather	313	Champion Blower & Forge Co.	151
Murphy Machine Tool Co.	315	Cinn. Lathe & Tool Co.	156
National Broach & Mach. Co.	320	Consolidated M. T. Corp.	169
Oliver Inst. Co.	343	D. & M. Mach. Works	175
Pratt & Whitney	351	General Mach. Corp.	218
Royersford Fdry. & Mach. Co.	361	Hendey Mach. Co.	249
Taylor & Fenn Co.	384	Le Blonde, R. K., M. T. Co.	291
Thompson Grinder Co.	385	Lehman Mach. Co.	292
U. S. Elect. Tool Co.	389	Lodge & Shipley M. T. Co.	303
Walker-Turner Co., Inc.	397	Monarch Mach. Tool Co.	311
HAMMERS. (See Forging):		Nebel Mach. Tool Co.	329
Barbour & Stockwell Co.	93	Porter-McLeod M. T. Co.	349
Billings & Spencer	104	Pratt & Whitney	351
Bradley, C. C. & Son., Inc.	109	Reed-Prentice Corp.	357
Chambersburg Eng. Co.	146	Sebastian Lathe Co.	362
Champion Blower & Forge Co.	151	Seneca Falls Mach. Co.	363
Erie Foundry Co.	189	Sheldon Mach. Co.	365
Langelier Mfg. Co.	287	Sidney M. T. Co.	370
Little Giant, Inc.	302	Simmons M. T. Co.	371
Lobdell Car Wheel Co.	312	Sommerfield Mach. Co.	374
Morgan Eng. Co.	312	South Bend-Lathe Wks.	374
Pettingell Mach. Co.	348	Springfield M. T. Co.	376
Quickwork-Whiting Div., Geo.		Waterbury - Farrell Fdry. &	
Whiting Corp.	354	Mach. Co.	398
Standard Machry. Co.	377	Western M. T. Works	402
Williams, White & Co.	406	Wickes Bros.	405
Yoder Co.	411	LATHES (Turret). (See Screw	
HEADERS. (See Forging.)		Machines):	
HOBBING. (See Gear Cut.		Acme Mach. Tool Co.	66
Includes hob grinding and		Bardons & Oliver Inc.	94
sharpening):		Gisholt Mach. Co.	223
Adams Co.	74	International M. T. Corp.	266
Barber-Colman Co.	93	International M. T. Poster	
Cleveland Hobbing Mach. Co.	163	Div.	265
Gould & Eberhardt	229	Jones & Lamson Mach. Co.	268
HONING:		Simmons Mach. Tool Corp.	371
Barnes Drill Co.	95	Warner & Swasey Co.	398
JIG BORING:		LATHES (Miscellaneous):	
Autometric M. T. Co.	90	Automatic Mach. Mfg. Co.	89
Cleerman M. T. Co.	161	Baird Machine Co.	91
Fosdick M. T. Co.	209	Blount J. G. Co.	106
Linley Bros. Co.	296	Frew Mach. Co.	211
Machinery Mfg. Co.	304	Grabo E. O. Mach. Wks.	230
Moore Special Tool Co., Inc.	312	Hardinge Bros. Inc.	246
Pratt & Whitney	351	Hepworth, S. S. Co.	255
Reed-Prentice Corp.	357	Lipe, W. C.	297
KEYSEATING:		Rivett Lathe & Grinder Inc.	358
Baker Bros. Inc.	92	Seneca Falls Mach. Co.	363
Burr, J. T. & Son	106	Sunstrand M. T. Co.	383
Chattanooga Mach. Co.	152	Waterbury - Farrell Fdry. &	
Davis Keyseater Co.	177	Mach. Co.	398
Mitts & Merrill	310		

	Page		Page
MILLING (Hand):		MILLING (Miscell.)—Con.	
Frew Mach. Co.	211	Superior Mach. & Eng. Co.	384
Jefferson Machine Tool Co.	267	U. S. Tool Co.	392
Kent-Owens Mach. Co.	272	NIBBLING:	
Miller & Crowningshield	310	American Chain & Cable Co.	79
Nichols, W. H. & Sons	339	Gray, Mach. Co.	233
Producto Mach. Co.	353	Savage W. J. Co.	262
Standard Eng. Works	377	OIL GROOVING:	
U. S. Mach. Tool Co.	391	Fischer Mach. Co.	207
MILLING (Plain and Universal):		Wicaco Mach. Corp.	405
Brown & Sharpe Mfg. Co.	116	PLANERS:	
Cincinnati Mill & Grind. Mach. Co.	156	Automatic Machry. Mfg. Co.	89
Douglas Machry. Co., Inc.	183	Cincinnati Planer Co.	158
Hardinge Bros.	246	Cleveland Planer Co.	163
Jackson Mach. & Tool Co.	266	General Machry. Co.	218
Kearney & Trecker Corp.	269	Gray, G. A. Co.	233
Kemp Smith Mach. Co.	270	Liberty Planers, Inc.	295
Van Norman M. T. Co.	394	Ohio Mach. Tool Co.	341
MILLING (Vertical):		Rockford Mach. Tool Co.	360
Blank & Buxton Machinery	106	Sellers, Wm. & Co., Inc.	363
Brown & Sharpe Mfg. Co.	116	POLISHING AND BUFFING:	
Cincinnati Mill & Grind. Mach. Co.	156	Blount, J. G. Co.	106
George Gorton Machine Co.	227	Bridgeport Safety Emery Wheel Co.	110
Granite State Machine Co.	230	Cincinnati Elect. Tool Co.	153
Hardinge Bros.	246	Hammond Machry. Bldrs.	238
Jackson Mach. & Tool Co.	266	Hisey-Wolfe Mach. Co.	259
Kearney & Trecker Corp.	269	Royersford Fdry. & Mach. Co.	361
Kemp Smith Mach. Co.	270	U. S. Elect. Tool Co.	389
Linley Bros. Co.	296	PRESSES:	
Machinery Mfg. Co.	304	American Broach & Mach. Co.	78
Pratt & Whitney	351	American Can Co.	85
Reed Prentice Corp.	357	Baird Mach. Co.	91
Sommer & Adams Co.	373	Bath, Cyril & Co.	96
Taylor & Fenn Co.	384	Beatty Mach. & Mfg. Co.	97
Van Norman M. T. Co.	394	Billings & Spencer	104
MILLING (Miscellaneous):		Callahan Can Co.	135
Aircraft Mach. Corp.	74	Chambersburg Eng. Co.	146
Ames, B. C. Co.	84	Cleve. Crane & Eng. Co.	162
Automatic Machry. Mfg. Co.	89	Cleve. Punch & Shear Wks.	164
Billings & Spencer	104	Colonial Broach Co.	167
Bridgeport Mach., Inc.	110	Delde Machine Wks.	179
Burke M. T. Co.	133	Dreis & Krump Mfg. Co.	183
Cincinnati Mill & Grind. Mach. Co.	156	Engineering & Research Corp.	188
Davis & Thompson Co.	176	Erie Fdry. Co.	189
Fray Mach. Tool Co.	211	Excelsior Tool & Mch. Co.	194
Frew Mach. Co.	211	Fameo Mch. Co.	194
Gooley & Edlund (Cooper Bros.)	227	Federal Press Co.	195
Hall Planetary Co.	237	Ferracute Mach. Co.	197
The Ingersoll Milling Machine Co.	264	General Mfg. Co.	219
Jefferson M. T. Co.	267	Greenerd Arbor Press Co.	234
Kearney & Trecker Corp.	269	Henry & Wright Mfg. Co.	254
Kent-Owens Mach. Co.	272	L. & J. Press Corp.	282
Knight Machry. Co.	282	La Pointe Mach. Tool Co.	287
National Broach & Mach. Co.	320	Marshalltown Mfg. Co.	308
Ohio Mach. Tool Co.	341	Minster Mach. Co.	310
Pratt & Whitney	351	National Mch. Co.	320
Producto Mach. Co.	353	New Albany Machine Mfg. Co.	330
Rowbottom Mach. Co.	361	Niagara Mach. & Tool Wks.	333
Simmons M. T. Co.	371	Obermayer Co.	341
Sundstrand M. T. Co.	383	Oilgear Co.	342
		Perkins Mch. Co.	348
		Rockford Iron Wks.	359
		Royersford Fdry. & Mach. Co.	361

	Page		Page
PRESSES—Continued.		SHAPERS:	
Standard Mch. Co.	377	Ames, B. C. Co.	84
V. & O. Press Co.	393	Automatic Mach. Mfg. Co.	89
Walsh Press & Die Co.	397	Cincinnati Shaper Co.	158
Waterbury-Farrell Fdry. & Mach. Co.	398	General Eng. & Mfg. Co.	218
Wells, Frank L. Co.	402	Gould & Eberhardt	229
Whitney Metal Tool Co.	403	Hendy Mach. Co.	249
Williams-White & Co.	406	Jones M. T. Works	269
Zeh-Hahnmann Co.	412	Machinery Mfg. Co.	304
PROFILING:		Ohio Mach. Tool Co.	341
Automatic Mchry. Mfg. Co.	89	Pratt & Whitney	351
Cincinnati Mill & Grind. Mach. Co.	156	Rhodes Mfg. Co. (Now made by B. C. Ames)	84
Frew Mach. Co.	211	Rockford Mach. Tool Co.	360
Pratt & Whitney	351	Smith & Mills Co.	373
Rhodes Machine Co.	357	Western Mach. Tool Wks.	402
PUNCHING:		SHEARING:	
Beatty Mach. & Mfg. Co.	97	Beatty Mach. & Mfg. Co.	97
Buffalo Forge Co.	120	Buffalo Forge Co.	120
Cleveland Punch & Shear Works Co.	164	Cincinnati Shaper Co.	158
Engineer & Research Corp.	188	Cleve. Punch & Shear Wks. Co.	164
Excelsior Tool & Mach. Co.	194	Doelger & Kirsten, Inc.	181
Hendley & Whittemore	250	Dreis & Krump Mfg. Co.	183
Kling Bros. Eng. Wks.	273	Excelsior Tool & Mach. Co.	194
Whitney Metal Tool Co.	403	Hendley & Whittemore	250
Williams-White & Co.	406	Hill Acme Co. (Canton Div.)	256
RIVETING:		Kling Bros. Eng. Wks.	273
Engineer & Research Corp.	188	Libert Mach. Co.	295
Grant Mfg. & Mach. Co.	231	Marshalltown Mfg. Co.	308
High Speed Hammer Co., Inc.	256	National Mach. Co.	320
Linley Bros. Co.	296	Niagara M. & T. Works	333
SAWS (Hack and Cold):		Pawtucket Mfg. Co.	345
Armstrong Blum Mfg. Co.	86	Pettingell Mach. Co.	348
J. T. Burr & Son	106	Quickwork-Whiting Div. Geo. Whiting Corp.	354
Champion Blower & Forge Co.	151	Streine Tool & Mfg. Co.	380
Cochrane-Bly Co.	166	Williams-White & Co.	406
Consolidated M. T. Co.	169	SLOTTERS. (See Shapers):	
Continental Mach. Inc.	170	Ames, B. C. Co.	84
Espen-Lucas Mach. Wks.	193	Douglas Mach. Co. Inc.	183
Grob Bros.	236	Jones Mach. Tool Wks. Inc.	269
Hunter Saw & Mach. Co.	263	Kent Mach. Co.	270
Kling Bros. Eng. Works	273	Lohdell Car Wheel Co.	302
Laidlaw, Wm. Inc.	282	Manville, E. J. Mach. Co.	305
Motch & Merryweather Mach. Co.	313	Rhodes Mfg. Co. (See B. C. Ames)	84
Peerless Mach. Co.	346	Rockford M. T. Co.	360
Porter-McLeod M. T. Co.	349	Stevens J. B. Inc.	378
Racine Tool & Mach. Co.	355	SWAGING:	
Rasmussen Mach. Co.	356	Etna Mach. Co.	193
Royersford Fdry. & Mach. Co.	361	Langelier Mfg. Co.	287
Walker-Turner Co., Inc.	397	Standard Mach. Co.	377
SCREW MACHINES. (See Turret Lathes):		Torrington Co.	388
Acme Mach. Tool Co.	66	TAPPING:	
Bardons & Oliver, Inc.	94	Acme Mch. (Division Hill Acme)	67
Gisholt Mach. Co.	233	Bakewell Mfg. Co.	93
International M. T. Co.	266	Bodine Corp.	108
International M. T. Foster Div.	265	Frew Mach. Co.	211
Jones & Lamson Mach. Co.	268	Haskins, R. G. & Co.	247
Simmons, M. T. Co.	371	Landis Mach. Co.	284
Stevens, J. B., Inc.	378	Langelier Mfg. Co.	287
Warner & Swasey Co.	398	Murphy M. T. Co.	315
		National Mach. Co.	320

TAPPING—Continued.	
Rickert-Shafer Co.	358
Western M. T. Works	402
THREADING:	
Acme Mach. (Division Hill Acme)	67
Bignall & Keller Co.	104
Cox & Sons Co.	174
Curtis & Curtis Co.	175
Economy Eng. Co.	187
Geometric Tool Co.	222
Grant Mfg. & Mach. Co.	231
Hall Planetary Co.	237
Jarecki Mfg. Co.	267
Kent Mach. Co.	270
Landis Mach. Co.	384
Murphy Mach. & Tool Co.	315
National Mach. Co.	320
Oster Mfg. Co.	344
Rickert-Shafer Co.	358
Toledo Pipe Thread Mach. Co.	388
THREAD MILLING:	
Adams Co.	74
Automatic Mach. Mfg. Co.	89
Coulter, James Mach. Co.	170
Hall Planetary Co.	237
Hanson-Whitney Mach. Co.	246
Lees-Bradner Co.	291
Murphy Mach. & Tool Co.	320
Pratt & Whitney	351
Smalley-General Co.	373

Page

MISCELLANEOUS:

Barrett Mach. Tool Co. (facing)	95
Coulter, James Machine Co. (cartridge case finisher)	170
Economy Eng. Co. (pointing)	187
Eng. & Research (sheet metal forming and shrinking)	188
Ex-Cell-O Corp. (facing)	193
Gleason Works (quenching press, hypoid testing)	225
Geo. Gorton (pantograph engraving)	227
Heald Machine Co. (facing)	248
Lewis Machine Co. (wire straightening and cutting)	294
Manville, E. J. (thread rolling, screw slotter and pointing)	305
Michigan Tool (relieving, rock typefinisher, finisherrotary)	309
National Broach (gear shaving, sound testing)	320
National Mach. (pointers, trimmers, die, sharpener)	320
Pawtucket Mfg. Co. (screw shaving and nut shaver)	345
Pratt & Whitney (rifling, seaming, bench shaver)	351
Standard Mach. Co. (rolling and wire flattening mills)	377
Waterbury-Farrell (thread rolling, slotter, eyelet machine)	398
Yoder Co. (sheet slitters)	411

Page

TRADE NAMES

Trade name	Type of machine	Name of manufacturer	Address
Abrasive	Cut-off	Bridgeport Safety Emery Wheel Co.	Stratford, Conn.
Acme	Pipe threading	Hill-Acme Co.	Cleveland, Ohio
Adriance	Presses	Callahan Can Mach. Co.	Brooklyn, N. Y.
Automatic	Pipe bending	Buffalo Forge Co.	Buffalo, N. Y.
Badger	Grinder	Covel-Mfg. Co.	Benton Harbor, Mich.
Bath	Grinder	Fitchburg Grind. Mach. Co.	Fitchburg, Mass.
Beaudry	Hammers	Barbour Stockwell Co.	Cambridge, Mass.
Becker	Milling	Reed-Prentice Co.	Worcester, Mass.
Bement	Boring	General Machinery Co.	Hamilton, Ohio
Betts	Lathes	Consolidated Mach. Tool Co.	Rochester, N. Y.
Betts-Bridgeford	Lathes	Consolidated Mach. Tool Co.	Rochester, N. Y.
Bickford	Drills	Cincinnati-Bickford	Cincinnati, Ohio
Bilton	Milling, gear cut	Producto Mach. Co.	Bridgeport, Conn.
Bore-Matic	Precision boring	Heald Mach. Co.	Worcester, Mass.
Bowgase	Grinders	Fitchburg Grind. Co.	Fitchburg, Mass.
Bridgeport	Grinders	Bridgeport Safety Emery Wheel Co.	Stratford, Conn.
Briggs (built after Mar. 1, 1941)	Milling	C. C. Bradley & Son, Inc.	Syracuse, N. Y.
Bristol	Milling, hand	Producto Mach. Co.	Bridgeport, Conn.
Cammatic	Grinders	Fitchburg Grinding Co.	Fitchburg, Mass.
Cam-O-Matic	Grinders	Norton Co.	Worcester, Mass.
Campbell	Nibbling	American Chain & Cable Co.	Bridgeport, Conn.
Canco	Power press	American Can Co.	Chicago, Ill.
Canton	Shears	Hill Acme Co., Canton Division	Cleveland, Ohio
Carbomatic	Lathes	W. C. Lipe, Inc.	Syracuse, N. Y.
Cataract	Lathes, etc	Hardinge Bros.	Elmira, N. Y.
Catlin	Keyseater	Chattanooga Mach. Co.	Chattanooga, Tenn.
Ceco Stamp	Press	Chambersburg Eng. Co.	Chambersburg, Pa.
Champion	Drills	Champion Blower & Forge Co.	Lancaster, Pa.
Chaplin	Idle turning lathes	Defiance Mach. Works	Defiance, Ohio
Chard	Lathe	Western Mach. Tool Co.	Holland, Mich.
Chicago	Brakes-shears	Dreis Krump Mfg. Co.	Chicago, Ill.
Cincinnati	Upright drills	Cincinnati-Bickford Co.	Cincinnati, Ohio
Cleveland	Vertical mills	Sommers & Adams	Cleveland, Ohio
Colburn	Presses, boring	Consolidated Machine Tool, Inc.	Rochester, N. Y.
Conomatic	Screw machinery	Cone Automatic Mach. Co.	Windsor, Vt.
Consolidated	Power presses	E. W. Bliss Co.	Brooklyn, N. Y.
Contin-U-Matic	Chucking and turn	Bullard Co.	Bridgeport, Conn.
Contour	Sawing	Continental Mach., Inc.	Minneapolis, Minn.
Coulter	Diamond tool boring	Automatic Mach. Co.	Bridgeport, Conn.
Crank-O-Lap	Lapping	Norton Co.	Worcester, Mass.
Craftsman	Milling and special	Sommer Adams Mach. Co.	Cleveland, Ohio
Curoloy	Rolls	Birdsboro Steel Fdry. & Mach. Co.	Birdsboro, Pa.
Cyclematic	Broach	Oilegear Co.	Milwaukee, Wis.
Demco	Drills	Toledo General Mfg. Co.	Toledo, Ohio
De Vieig	Milling	Ohio Mach. Tool Co.	Kenton, Ohio
Diamondite	Rolls	Birdsboro Steel Foundry & Machine Co.	Birdsboro, Pa.
Dill	Slotters	Lobdell Car Co.	Wilmington, Del.
Di-Matic	Auto. screw mach.	Billings & Spencer	Hartford, Conn.
Doall	Comb. band saw, filing and polis.	Continental Mach. Co.	Minneapolis, Minn.
Dreses, M. T.	Drills-lathes	Cincinnati Gilbert Machine Tool Co.	Cincinnati, Ohio
Duomatic	Auto. lathe	Lodge & Shipley	Cincinnati, Ohio
Durite	Rolls	Birdsboro Steel & Foundry Co.	Birdsboro, Pa.
Economax	Drills	Fosdick Mach. Tool Co.	Cincinnati, Ohio
Economy	Grinding	Hisey-Wolfe Co.	Cincinnati, Ohio
Economy	Lathe	D & M Machinery Works	Torrance, Calif.
Eda	Turret punch	Wiedeman Mach. Co.	Philadelphia, Pa.
Electromil	Milling	Sundstrand Mach. Co.	Rockford, Ill.
Ereo	Punching and rivet	Engineering & Research Corp.	Riverdale, Md.
Eureka	Blowers and forges	Champion Blower & Forge Co.	Lancaster, Pa.
Excel	Power hacksaw	Covel Mfg. Co.	Benton Harbor, Mich.
Farwell	Gear hobber	Adams Co.	Dubuque, Iowa
Fay	Automatic	Jones & Lamson Co.	Springfield, Vt.
Fleximatic	Drill-lapp. and team	Kingsbury Machine Tool Co.	Keene, N. H.
Fox Monitor	Turret lathe	Springfield Machy. Tool Co.	Springfield, Ohio
Gage-Matic	Int. grind	Heald Machinery Co.	Worcester, Mass.
Garvin	Tappers	Western Mach. Tool Works	Holland, Mich.
Garvin	Profiler	Frew Machine Co.	Philadelphia, Pa.
Garvin	Grind-slotter	John B. Stevens Co.	New York, N. Y.

TRADE NAMES—Continued

Trade name	Type of machine	Name of manufacturer	Address
Gemco-Kelly	Shapers	General Engineering & Manufacturing Co.	St. Louis, Mo.
Giant	Keyseaters	Mitta & Merrill Co.	Saginaw, Mich.
Giddings & Lewis	Boring	The Locomotive Finished Material Co.	Atchison, Kans.
Grand Rapids	Grinders	Gallmeyer & Livingston Co.	Grand Rapids, Mich.
Grays	Turret rotary Baldwin shears	Southwark Foundry & Machine Co.	Philadelphia, Pa.
Gridley	Automatic	National Acme Co.	Cleveland, Ohio.
Hamilton	Presses	General Machinery Co.	Hamilton, Ohio.
Hamilton	Drills	Hamilton Tool Co.	Cleveland, Ohio.
Hammond	Drills	Footo-Burte	Rochester, N. Y.
Harrington	Multi drills	Consolidated Machine Tool Co.	Lancaster, Pa.
Hercules	Hammers	Champion Blower & Forge Co.	Hatfield, Mass.
Hizley	Cold saw and lathes	Porter McCleod Machine Tool Co.	Rochester, N. Y.
Hille-Jones	Planers	Consolidated Machine Tool Co.	St. Louis, Mo.
Hole-Hog	Drilling	Moline Tool Co.	Cincinnati, Ohio.
Hule Wizard	Radial	American Tool Works	Bridgeport, Conn.
Hudorkut	Abrasive cutting	Campbell-American Inc., Chain & Cable	Worcester, Mass.
Hydrolap	Lapping	Norton Co.	Rochester, N. Y.
Hypoid	Gears	Gleason Works	Springfield, Ohio.
Ideal	Lathes	Springfield Machine Tool	Cedar Rapids, Iowa.
Imperial	Grinding	Cedar Rapids Eng. Co.	Jackson, Mich.
Index	Mills	Blank & Buxton Machy. Co.	West Hartford, Conn.
Keller	Cutter-drill grind	Pratt & Whitney Co.	St. Louis, Mo.
Kelly	Crank shaper	Gen. Eng. & Mfg. Co.	Cedar Rapids, Iowa.
Kwik-Way	Grinders	Cedar Rapids Eng. Co.	Waynesboro, Pa.
Landmaco	Threading	Landis Mach. Tool Co.	Marshalltown, Iowa.
Lenox	Shears	Marshalltown Mfg. Co.	Indianapolis, Ind.
Libby	Turret lathe	International Machine Tool Company	Seneca Falls, N. Y.
Lo-Swing	Lathes	Seneca Falls Mach. Co.	Brooklyn, N. Y.
Marquette	Presses	E. W. Bliss Company	Indianapolis, Ind.
Marschke	Grind and polish	Vonnegut Moulders Corp.	Indianapolis, Ind.
Marvel	Saws	Armstrong Blum Mfg. Co.	Milwaukee, Wis.
Maximiller	Milling	Kemp Smith Machine Co.	Cincinnati, Ohio.
Milband	Metal cutting	Avey Drilling Company	Milwaukee, Wis.
Milwaukee	Milling	Kearney Trecker Corp.	Milwaukee, Wis.
Milwaukee	Shears	Doelger & Kirsten Corp.	York, Pa.
Monarch	Hyd. press	A. B. Farquhar Co., Ltd.	Sidney, Ohio.
Monotrol	Eng. lathes	Sidney Mach. Tool Co.	Bridgeport, Conn.
Multi-Au-Matic	Turning, threading and boring	Bullard Company	Cincinnati, Ohio.
Multi-Cut	Lathes	LeBlond Mach. Tool Co.	Cincinnati, Ohio.
Multi-Duty	Radial drill	Cincinnati Gilbert Machine Tool Co.	Cincinnati, Ohio.
Nazel	Hammers	Lobdell Car Wheel Co.	Wilmington, Del.
Newton	Cold saws	Consolidated Machine Tool Co.	Rochester, N. Y.
Niles	Boring	General Machinery Co.	Hamilton, Ohio.
Pace-maker	Lathe	American Tool Works	Cincinnati, Ohio.
Peck	Drop press	Farrel Birmingham Co.	Ansonia, Conn.
Peerless	Pipe cut. and thread	Biggall & Keeler	Edwardsville, Ill.
Pels	Punching shear	Henry Pels & Co.	New York, N. Y.
Pexto	Power press	Peck, Stow & Wilcox Co.	Southampton, Conn.
Pittsburgh	Lathe	Sommerfeld Machine Co.	Bradock, Pa.
Plymouth	Grinding	Clizbe Bros. Mfg. Co.	Plymouth, Ind.
Pond	Boring	General Machinery Co.	Hamilton, Ohio.
Precision	Horiz. bor. mill	General Machinery Co.	Cleveland, Ohio.
Precision	Lathe and grinding	Rivett Lathe & Grind. Co.	Boston, Mass.
Prentice	Drills	Reed-Prentice Corp.	Worcester, Mass.
Prybil	Spinning lathes	S. S. Hepworth Co.	Long Island City, N. Y.
Putnam	Planer	General Machinery Co.	Hamilton, Ohio.
Queen	Grinding	Clizbe Bros. Mfg. Co.	Plymouth, Ind.
Radiac	Cut-off	A. P. DeSanno & Son	Phoenixville, Pa.
Rafter	Press brakes	Ferracute Mach. Co.	Bridgeton, N. J.
Rahn-Lahmon	Lathes	Nebel Mach. Tool Co.	Cincinnati, Ohio.
Ransom	Grinders	Lippman Eng. Works	Milwaukee, Wis.
Reed	Lathe	Reed Prentice Corp.	Worcester, Mass.
Regal	Lathes	R. K. LeBlond Mach. Tool Co.	Cincinnati, Ohio.
Revacycle	Gear cutting	Gleason Works	Rochester, N. Y.
Rigidmill	Milling	Sundstrand Mach. Tool Co.	Rochford, Ill.
Rite-Speed	Polish lathes	Hammond Machinery Co.	Kalamazoo, Mich.
Robinson	Presses	New Albany Mach. Mfg. Co.	Brooklyn, N. Y.
Robert	Hor. surf. grind	Robaczynski Mach. Co.	Rochester, N. Y.
Rochester	Gear tooth rounder	Consolidated Mach. Tool Co.	Moline, Ill.
Rockford	Drill	Moline Tool Co.	Chicago, Ill.
Rock River	Punches	Hannifin Mfg. Co.	Cleveland, Ohio.
Rodrop	Hammers	Ajax Manufacturing Co.	Alfred, N. Y.
Rogers	Turret lathe	Rogers Machine Works	Milwaukee, Wis.
Rotomatie	Boring drill	Davis & Thompson Co.	New York, N. Y.
Rotorex	Cutter and tool grind	Douglas Mach. Co.	Kalamazoo, Mich.
Router	Planer	Hammond Machinery Co.	Kalamazoo, Mich.

TRADE NAMES—Continued

Trade name	Type of machine	Name of manufacturer	Address
Royal	Drills	Canedy Otto Mfg. Co.	Chicago Heights, Ill.
Sawmore	Metal-cutting	Rasmussen Machine Co.	Racine, Wis.
Simplex	Lathes	Seneca Falls Machine Co.	Seneca Falls, N. Y.
Simplex	Boring machine	Stokerunit Corp.	Milwaukee, Wis.
Simplex	Milling	Kearney & Trecker	Milwaukee, Wis.
Simplex	Lathe	Gisholt Machine Co.	Madison, Wis.
Single Stroke	Grinder	O. S. Walker Co.	Worcester, Mass.
Size-Matic	Grinders	Head Mfg. Co.	Worcester, Mass.
Skipper	Grinder	U. S. Elec. Tool Co.	Cincinnati, Ohio.
Slo-Speed	Drill press	Delta Mfg. Co.	Milwaukee, Wis.
Stanco	Shears	Streine Tool & Mfg. Co.	New Bremen, Ohio.
Standard Pattern	Grinding	Clizbe Bros. Mfg. Co.	Plymouth, Ind.
Star	Eng. lathes	Seneca Falls Mach. Co.	Seneca Falls, N. Y.
Steelweld	Presses	Cleveland Crane & Eng. Co.	Cleveland, Ohio.
Step-toe	Milling	Frew Machine Co.	Philadelphia, Pa.
Step-toe	Grinder	Western Machine Tool Co.	Holland, Mich.
Sterling	Presses	McKonough Mfg. Co.	Eau Claire, Wis.
Stiles	Presses	E. W. Bliss Co.	Brooklyn, N. Y.
Sturdybender	Presses	Cyrril Bath & Co.	Cleveland, Ohio.
Super Power	Presses	Fox Machine Co.	Jackson, Mich.
Super Service	Drills	Cincinnati Bickford Co.	Cincinnati, Ohio.
Sykes	Grinder	Farrel Birmingham Co.	Ansonia, Conn.
Terromatic	Grinder	Head Mfg. Co.	Worcester, Mass.
Thiel	Die filing	Marburg Bros.	New York, N. Y.
Time Saver	Lathes and planers	General Machy. Co.	Hamilton, Ohio.
Toledo	Hand millers	Kent Owens Machine Co.	Toledo, Ohio.
Toledo	Presses	E. W. Bliss Co.	Brooklyn, N. Y.
Trital	Lathes	Sidney Machine Tool Co.	Sidney, Ohio.
Utility	Hammers	Barbour Stockwell Co.	Cambridge, Mass.
Vari-Speed	Lathe	Hammond Machinery Co.	Kalamazoo, Mich.
Vernon	Vert. mill and jig borer and shaper	Machinery Mfg. Co.	Los Angeles, Calif.
Victory	Lathe	Hammond Machinery Co.	Kalamazoo, Mich.
Wei-R-Dry	Grinding	Porter Cable Machine Co.	Syracuse, N. Y.
Whitcomb	Shapers	Reed Prentice Co.	Worcester, Mass.
Williams	Power pipe	Oster Manufacturing Co.	Cleveland, Ohio.
Willmarth & Morman	Grinder	Covel Manufacturing Co.	Benton Harbor, Mich.

ALPHABETICAL LIST OF MACHINE TOOL MANUFACTURERS WITH PRICES IN EFFECT AS OF MARCH 1, 1941

Companies listed below with an asterisk (*) do not have prices listed. To obtain equivalents, submit serial number and description direct to company.

Name and city	Serial No.	Page
Abrasive Machine Tool Co., East Providence, R. I.	Grinding, surface	Yes 66
The Acme Machine Tool Co., Cincinnati, Ohio	Screw machines; lathes, turret	Yes 66
Acme Machinery Division (Hill-Acme), Cleveland, Ohio	Tappers, forging, threading	Yes 67
The Adams Co., Dubuque, Iowa	Hobbing, thread milling	Yes 74
Aircraft Machinery Corporation, Burbank, Calif.	Milling, miscellaneous	Yes 74
Ajax Manufacturing Co., Cleveland, Ohio	Forging	No 74
Albany Hardware Specialty Manufacturing Co., Albany, Wis.	Drills, sensitive	Yes 76
Charles G. Allen Co., Barre, Mass.	Drills, sensitive	Yes 76
American Broach & Machine Co., Ann Arbor, Mich.	Broaching press	Yes 78
*American Can Co., New York, N. Y.	Presses OBI arch	No 79
American Chain & Cable Co., Bridgeport, Conn.	Nibbler, cut-off	No 83
The American Tool Works Co., Cincinnati, Ohio	Lathe, engine; drills, radial	Yes 84
B. C. Ames Co., Waltham, Mass.	Lathe, engine; miller, miscell.; shapers; slotters	Yes 85
The Max Ams Machine Co., Bridgeport, Conn.	Presses, double seamers, closing machine	Yes 86
Armstrong-Blum Manufacturing Co., Chicago, Ill.	Saws	Yes 89
The Arter Grinding Machine Co., Worcester, Mass.	Grinding, surface, miscellaneous	Yes 89
Automatic Machinery Manufacturing Co., Bridgeport, Conn.	Lathe; planer, profiling, shaper, thread milling, diamond boring	No 90
Autometric Machine Tool Co., Berkeley, Calif. (name changed to Production Eng. Co.)	Jig boring and horiz., precision boring, boring, drills (sensitive)	Yes 90
The Avey Drilling Machine Co., Cincinnati, Ohio	Drills (sensitive)	Yes 91
Axelsson Manufacturing Co., Los Angeles, Calif.	Lathes (engine)	Yes 91
Baird Machine Co., Bridgeport, Conn.	Presses	No 91

ALPHABETICAL LIST OF MACHINE TOOL MANUFACTURERS WITH
PRICES IN EFFECT AS OF MARCH 1, 1941—Continued

Name and city		Serial No.	Page
Baker Brothers, Inc., Toledo, Ohio	Drills, grinder; keyseater	Yes	92
Bakewell Manufacturing Co., Los Angeles, Calif.	Tapping	No	93
*Baldwin-Southwark Division, Philadelphia, Pa.		No	93
Barber-Colman Co., Rockford, Ill.	Hobbing	Yes	93
Barbour Stockwell Co., Cambridge, Mass.	Hammers	No	94
Bardons & Oliver, Inc., Cleveland, Ohio	Screw machine, lathes (turret)	Yes	94
Barnes Drill Co., Rockford, Ill.	Drills (b. d.), boring	Yes	95
*W. F. & John Barnes Co., Rockford, Ill.	Boring, honing, and rifle drilling	No	95
Barrett Machine Tool Co., Meadville, Pa.	Boring mill (horiz.)	Yes	95
Cyril Bath & Co., Cleveland, Ohio	Presses	No	96
Bausch Machine Tool Co., Springfield, Mass.	Drills	Yes	96
Beatty Machine & Manufacturing Co., Hammond, Ind.	Punches, shears, presses	Yes	97
*Bertsch & Co., Cambridge City, Ind.	Rolls	No	97
Charles H. Bealy & Co., Chicago, Ill.	Grinders (disc)	No	102
H. Bickford & Co., Lakeport, N. H.	Boring mill (vertical)	No	104
Signal & Keeler Co., Edwardsville, Ind.	Cut-off, threading	Yes	104
Bilgram Gear Co., Philadelphia, Pa.	Gear, generator	No	104
Billings & Spencer, Hartford, Conn.	Hammers, presses, milling, forging	Yes	104
The Blanchard Machine Co., Cambridge, Mass.	Grinder (surface)	Yes	105
Blank & Buxton Machinery Co., Jackson, Mich.	Index-mill	No	106
*E. W. Bliss Co., Brooklyn, N. Y. (Consolidated & Toledo also)	Presses	Yes	106
J. G. Blount Co., Everett, Mass.	Grinders, rolling and buffing lathes	No	106
The Bodine Corporation, Bridgeport, Conn.	Tapping, drilling	Yes	108
Boyar-Schultz Corporation, Chicago, Ill.	Grinders, profile	No	109
Boye & Emmes Machine Tool Co., Chicago, Ill.	Lathes (engine)	Yes	109
Bradford Machine Tool Co., Cincinnati, Ohio	do	Yes	109
C. C. Bradley & Son, Inc., Syracuse, N. Y.	Hammers	No	109
Bridgeport Machines, Inc., Bridgeport, Conn.	Milling	No	110
Bridgeport Safety Emery Wheel Co., Stratford, Conn.	Polishing and buffing grinders	Yes	110
Brown & Sharpe Manufacturing Co., Providence, R. I.	Grinding; milling, automatic	No	116
Bryant Chucking Grinder Co., Springfield, Vt.	Grinders	Yes	119
Buffalo Forge Co., Buffalo, N. Y.	Drills, punching, bending, shears	No	120
The Bullard Co., Bridgeport, Conn.	Boring	Yes	132
Burke Machine Tool Co., Conneaut, Ohio	Milling	No	133
John T. Burr & Son, Brooklyn, N. Y.	Keyseaters, saws	No	134
Callahan Can Machine Co., Brooklyn, N. Y.	Presses	Yes	135
Candey - Otto Manufacturing Co., Chicago Heights, Ill.	Drills (sensitive), heavy duty	No	137
The Carlisle Machine Tool Co., Cincinnati, Ohio	Drills (radial)	Yes	144
Carroll-Jamieson Machine Tool Co., Batavia, Ohio	Lathes (engine)	Yes	145
Cedar Rapids Engineering Co., Cedar Rapids, Iowa	Grinding (miscellaneous)	No	146
Chambersburg Engineering Co., Chambersburg, Pa.	Hammers, presses, forging	Yes	146
Champion Blower & Forge Co., Lancaster, Pa.	Drills (sensitive), lathes (engine), saws, hammers	Yes	151
Chattanooga Machinery Co., Chattanooga, Tenn.	Keyseaters	Yes	152
Chisholm-Ryder Co., Niagara Falls, N. Y.	Boring (horiz.)	No	153
The Cincinnati Bickford Tool Co., Oakley, Cincinnati, Ohio	Drills (radial), heavy duty	Yes	153
Cincinnati Electrical Tool Co., Cincinnati, Ohio	Grinders (disc) (miscel.); polishing and buffing	Yes	153
The Cincinnati Gilbert Machine Tool Co., Cincinnati, Ohio	Drills (radial), boring (horiz.)	Yes	155
The Cincinnati Lathe & Tool Co., Cincinnati, Ohio	Lathes (engine)	No	156
Cincinnati Milling & Grinders, Mach., Inc., Cincinnati, Ohio	Milling, grinding, broaching, profiling	No	156
The Cincinnati Planer Co., Cincinnati, Ohio	Planers, boring mill	No	158
The Cincinnati Shaper Co., Cincinnati, Ohio	Shapers, shears, brakes	Yes	158
Cleereman Machine Tool Co., Green Bay, Wis.	Jig borer, drills (heavy duty)	No	161
The Cleveland Automatic Machine Co., Cleveland, Ohio	Automatic	Yes	162
The Cleveland Crane & Engineering Co., Wickliffe, Ohio	Presses	No	162
The Cleveland Hobbing Machine Co., Cleveland, Ohio	Hobbing	Yes	163
The Cleveland Planer Co., Cleveland, Ohio	Planer	Yes	163
Cleveland Punch & Shear Works Co., Cleveland, Ohio	Presses, shears, punching, drill (radial)	Yes	164
Cochrane-Bly Co., Rochester, N. Y.	Saws, filing	Yes	166
Colonial Broach Co., Detroit, Mich.	Broaching	Yes	167
Cone Automatic Machine Co., Windsor, Vt.	Automatic	Yes	169
Consolidated Machine Tool Corporation, Rochester, N. Y.	Lathes (engine), boring, saws, drill (heavy duty)	Yes	169
Continental Machines, Inc., Minneapolis, Minn.	Filing, saws	Yes	170

ALPHABETICAL LIST OF MACHINE TOOL MANUFACTURERS WITH
PRICES IN EFFECT AS OF MARCH 1, 1941—Continued

Name and city		Serial No.	Page
Cooper Brothers (Gooley & Edlund), Cortland, N. Y.	Milling (misc.)	Yes	227
James Coulter Machine Co., Bridgeport, Conn.	Thread milling	Yes	170
Covel Manufacturing Co., Benton Harbor, Mich.	Grinders (cut and tool)	Yes	170
Cox & Sons Co., Bridgeport, N. J.	Threading, grinders	Yes	174
Cross Gear & Machine Works, Detroit, Mich.	Gear cutting, chamfering	No	175
Curtis & Curtis Co., Bridgeport, Conn.	Threading	Yes	175
D & M Machine Works, Torrance, Calif.	Lathes (engine)	No	175
The Dauber Co., Oshkosh, Wis.	Drills (radial)	Yes	176
Davenport Machine Tool Co., Rochester, N. Y.	Automatic	Yes	176
Davis & Thompson Co., Milwaukee, Wis.	Milling, drill	Yes	176
Davis Keyseater Co., Rochester, N. Y.	Keyseater	Yes	177
Defiance Machine Works, Inc., Defiance, Ohio	Boring (horiz.), drilling	Yes	178
Delde Machine Works, Melrose Park, Ill.	O. B. I. presses	No	179
A. P. DeSanno & Son, Phoenixville, Pa.	Cut-off	Yes	179
Doelger & Kirsten, Inc., Milwaukee, Wis.	Shears	No	181
Douglas Machinery Co., Inc., New York, N. Y.	Miller, slotter	No	183
Dreis & Krump Manufacturing Co., Chicago, Ill.	Presses, brakes, shears, bending	Yes	187
Economy Engineering Co., Willoughby, Ohio	Threading, miscellaneous	Yes	188
Edlund Machinery Co., Inc., Cortland, N. Y.	Drills (sensitive)	Yes	188
Engineering & Research Corporation, Riverdale, Md.	Punching, riveting, presses, brakes, miscellaneous	No	188
Erie Foundry Co., Erie, Pa.	Hammers, forging presses	Yes	189
Espan Lucas Machine Works, Philadelphia, Pa.	Saws	Yes	193
Etna Machine Co., Toledo, Ohio	Swaging	Yes	193
Ex-Cell-O Corporation, Detroit, Mich.	Diamond grinder	Yes	193
Excelsior Tool & Machine Co., East St. Louis, Mo.	Shears, punches, presses, bending	No	194
Fanco Machine Co., Racine, Wis.	Presses	No	194
Farrel-Birmingham Co., Inc., Ansonia, Conn.	Gear cutting	Yes	195
Federal Press Co., Elkhart, Ind.	Presses	Yes	195
Fellows Gear Shaper Co., Springfield, Vt.	Gear cutting	Yes	196
Ferracute Machine Co., Bridgeport, N. J.	Presses	Yes	197
Fischer Machine Co., Philadelphia, Pa.	Oil groover	Yes	207
*Fitchburg Engineering Corporation, Fitchburg, Mass.	Milling steam engine	No	207
Fitchburg Grinding Machine Corporation, Fitchburg, Mass.	Grinding	No	207
The Foote-Brute Co., Cleveland, Ohio	Drills	Yes	208
Feedick Machine Tool Co., Cincinnati, Ohio	Drills, jig borer	Yes	209
Fox Grinders, Inc., Pittsburgh, Pa.	Swing frame grinders	No	211
Fray Machine Tool Co., Glendale, Calif.	Milling	No	211
Frew Machine Co., Philadelphia, Pa.	Tapping, milling, profiling, lathe, hand milling, drills	Yes	211
Gallmeyer & Livingston Co., Grand Rapids, Mich.	Grinding (surface) (cut and tool, misc.)	Yes	213
Gardner Machine Co., Beloit, Wis.	Grinders	Yes	217
Gear Grinding Machine Co., Detroit, Mich.	Grinding (misc.)	No	217
General Engineering & Manufacturing Co., St. Louis, Mo.	Shapers	Yes	218
General Machinery Corporation, Hamilton, Ohio	Boring (vert.), drill (radial), lathe (engine), planer	Yes	218
General Manufacturing Co., Detroit, Mich.	Presses	No	219
The Geometric Tool Co., New Haven, Conn.	Grinder (miscel.), threading	Yes	222
Giddings & Lewis Machine Tool Co., Fond du Lac, Wis.	Boring (horiz.)	Yes	222
Gisholt Machine Co., Madison, Wis.	Screw machine, lathes (turret)	Yes	223
Gleason Works, Rochester, N. Y.	Gear cutting, miscellaneous	Yes	225
Gooley & Edlund, Cortland, N. Y. (Cooper Bros.)	Lincoln type mills	Yes	227
George Gorton Machine Co., Racine, Wis.	Milling (vertical), engraving	Yes	227
The Goss & DeLeeuw Machine Co., New Britain, Conn.	Automatic	Yes	228
Gould & Eberhardt, Newark, N. J.	Shapers, gear cutting	Yes	229
E. O. Grabo Machine Works, New York, N. Y.	Lathes (misc.), saws	No	230
Granite State Machine Co., Manchester, N. H.	Vert. mill and jig borer	No	231
Grant Manufacturing & Machine Co., Bridgeport, Conn.	Riveting, threading, chamfering	No	231
The G. A. Gray Co., Cincinnati, Ohio	Planers	Yes	233
Gray Machine Co., Philadelphia, Pa.	Nibbling	No	233
Greenard Arbor Press Co., Nashua, N. H.	Presses	No	234
Greenlee Bros. & Co., Rockford, Ill.	Automatic	Yes	236
Grob Bros., Grafton, Wis.	Saws	Yes	237
The Hall Planetary Co., Philadelphia, Pa.	Milling, threading	Yes	237
Hammond Machinery Builders, Kalamazoo, Mich.	Polishing and buffing	Yes	238
Hanchett Manufacturing Co., Big Rapids, Mich.	Grinding	Yes	245
*Hanna Engineering Works, Chicago, Ill.	Riveting, air and hydr. cylindricals	Yes	245
*Hannifin Manufacturing Co., Chicago, Ill.	Bending, broaching, punches, riveters	Yes	245
The Hanson-Whitney Machine Co., Hartford, Conn.	Thread milling	Yes	246

ALPHABETICAL LIST OF MACHINE TOOL MANUFACTURERS WITH PRICES IN EFFECT AS OF MARCH 1, 1941—Continued

Name and city		Serial No.	Page
Hardinge Brothers, Inc., Elmira, N. Y.	Lathe, milling.	Yes	246
R. G. Haskins Co., Chicago, Ill.	Tapping	Yes	247
The Heald Machine Co., Worcester, Mass.	Grinders, diamond boring	No	248
The Hendey Machine Co., Torrington, Conn.	Lathe (engine), shapers	Yes	249
Hendley & Whittemore, Beloit, Wis.	Punches, shears, bending	Yes	250
The Henry & Wright Manufacturing Co., Hartford, Conn.	Drills (sensitive), presses	Yes	254
S. S. Hepworth Co., Long Island City, N. Y.	Lathe (spinning)	No	255
High Speed Hammer Co., Inc., Rochester, N. Y.	Riveting, drills (sensitive)	No	256
Hill Aeme Co. (Canton Div.), Cleveland, Ohio	Shears	No	256
Hisey-Wolf Machine Co., Cincinnati, Ohio	Polishing and buff., grindings	No	259
Hoefer Manufacturing Co., Inc., Freeport, Ill.	Drills (miscell.)	Yes	263
Hunter Saw & Machine Co., Pittsburgh, Pa.	Saws	Yes	263
Illinois Machine & Manufacturing Co., LaSalle, Ill.	Grinders	Yes	263
The Ingersoll Milling Machine Co., Rockford, Ill.		Yes	264
International Machine Tool Corporation, Elkhart, Ind. (Foster Division)	Screw machine, lathes (turret)	Yes	265
International Machine Tool Corporation, Indianapolis, Ind.	Screw machines, lathes (turret)	Yes	266
Jackson Machine & Tool Co., Jackson, Mich.	Milling (vert. pl. and Univ.)	No	266
Jarecki Manufacturing Co., Erie, Pa.	Threading	Yes	267
Jefferson Machine Tool Co., Cincinnati, Ohio	Millers (misc.)	No	267
Jones & Lamson Machine Co., Springfield, Vt.	Grinding (misc.), screw machine, lathes (turret)	Yes	268
Jones Machine Tool Works, Inc., Philadelphia, Pa.	Shapers (vert.), slotters	Yes	269
Kearney & Trecker Corporation, Milwaukee, Wis.	Milling	Yes	269
Kemp Smith Machine Co., Milwaukee, Wis.	Milling (pl. and univ.) (vertical)	Yes	270
Kent Machine Co., Cuyahoga Falls, Ohio	Threading, slotters, drills	Yes	270
Kent-Owens Machine Co., Toledo, Ohio	Milling (hand)	Yes	272
King Machine Tool Co., Cincinnati, Ohio	Boring (vert.)	Yes	272
Kingsbury Machine Tool Corporation, Keene, N. H.	Drills (sens.)	Yes	272
Kling Brothers Engineering Works, Chicago, Ill.	Grinders, shears, punches, bending, saws, bulldozers	Yes	273
W. B. Knight Machinery Co., St. Louis, Mo.	Milling	Yes	282
L. & J. Press Corporation, Elkhart, Ind.	Presses	Yes	282
William Laidlaw, Inc., Belmont, N. Y.	Saws	Yes	282
*Lake Erie Engineering Corporation, Buffalo, N. Y.	Presses-hydr., bending, brakes	No	---
Landis Machine Co., Waynesboro, Pa.	Threading, misc., grinders (misc.)	Yes	284
Landis Tool Co., Waynesboro, Pa.	Grinding	Yes	286
Langeller Manufacturing Co., Cranston, R. I.	Drills (sens.), tapping, hammer, swaging	No	287
The Lapoint Machine Tool Co., Hudson, Mass.	Broaching presses	Yes	287
The R. K. LeBlond Machine Tool Co., Hyde Park, Cincinnati, Ohio	Lathe (engine), grinders (tool and cut.)	Yes	291
Lees-Bradner Co., Cleveland, Ohio	Gear cutting, thread miller	Yes	291
Lehmann Machine Co., St. Louis, Mo.	Lathe (engine)	Yes	292
Leinard-Gifford Co., Worcester, Mass.	Drills (sensitive)	Yes	292
Lewis Machine Co., Cleveland, Ohio	Wire straightening and cutting	No	294
Libert Machine Co., Green Bay, Wis.	Shears	Yes	295
Liberty Planers, Inc., Hamilton, Ohio	Planers	Yes	295
Linley Brothers Co., Bridgeport, Conn.	Jig boring, milling (vert.), riveting	Yes	296
W. C. Lipe, Inc. (Lipe-Railway Corporation), Syracuse, N. Y.	Lathe, miscellaneous	Yes	297
Lippmann Engineering Works (Ransom Grinding Co.), Milwaukee, Wis.	Grinders	Yes	297
Little Giant, Inc., Mankato, Minn.	Hammers	Yes	302
Lobdell Car Wheel Co., Wilmington, Del.	Slotters, hammers	Yes	302
The Locomotive Finished Material Co., Atchison, Kans.	Boring (horiz.)	No	302
The Lodge & Shipley Machine Tool Co., Cincinnati, Ohio	Lathe (engine)	Yes	303
The Lucas Machine Tool Co., Cleveland, Ohio	Boring (horiz.)	Yes	303
Machinery Manufacturing Co., Los Angeles, Calif.	Vert. mill, jig borer, shaper	No	304
E. J. Manville Machine Co., Waterbury, Conn.	Forging, miscellaneous	Yes	305
Marshalltown Manufacturing Co., Marshalltown, Iowa	Presses, shears	Yes	308
Mattison Machine Works, Rockford, Ill.	Grinders (surface)	Yes	309
McDonough Manufacturing Co., Eau Claire, Wis.	Grinder (cut and tool)	No	309
*Mesta Machine Co., Pittsburgh, Pa.	Roll grinders, planers, presses	No	304
*Metalwood Manufacturing Co., Detroit, Mich.	Special	Yes	309
Michigan Tool Co., Detroit, Mich.	Miscellaneous, grinders (miscellaneous)	Yes	309
Miller & Crowningshield, Greenfield, Mass.	Miller (hand)	No	310
Minster Machine Co., Minster, Ohio	Presses	Yes	310
Mitts & Merrill, Saginaw, Mich.	Keyseaters	Yes	310
Modern Machine Tool Co., Jackson, Mich.	Cut-off	No	311

ALPHABETICAL LIST OF MACHINE TOOL MANUFACTURERS WITH PRICES IN EFFECT AS OF MARCH 1, 1941—Continued

Name and city		Serial No.	Page
Moline Tool Co., Moline, Ill.	Drilling (heavy duty), diamond boring	Yes	311
The Monarch Machine Tool Co., Sidney, Ohio	Lathe (engine)	Yes	311
Moore Special Tool Company, Inc., Bridgeport, Conn.	Jig borer, grinder (miscellaneous)	Yes	312
Morgan Engineering Co., Alliance, Ohio	Steam hammers	Yes	312
Morris Machine Tool Co., Cincinnati, Ohio	Drills (radial)	Yes	313
*Morton Manufacturing Co., Muskegon Heights, Mich.	Draw cut machine, finished machine keys	Yes	---
Match & Merryweather Machine Co., Cleveland, Ohio	Saws	No	313
Murphy Machine & Tool Co., Detroit, Mich.	Thread milling, threading, chamfering	Yes	315
National Aeme Co., Cleveland, Ohio	Automatic	No	316
The National Automatic Tool Co., Richmond, Ind.	Drills (heavy duty) (multi-spindle)	No	317
National Broach & Machine Co., Detroit, Mich.	Miscellaneous, milling, grinding	Yes	320
The National Machinery Co., Tiffin, Ohio	Forging, threading, presses, tapping, miscellaneous, shears	Yes	320
Nebel Machine Tool Co., Cincinnati, Ohio	Lathe (engine)	Yes	329
*A. Netter & Sons, Inc., Toledo, Ohio	Pipe thread	No	---
New Albany Machine Manufacturing Co., New Albany, Ind.	Presses	No	330
Newark Gear Cutting Mach. Co., Newark, N. J.	Gear cutter	Yes	331
New Britain Machine Co., New Britain, Conn.	Automatics	No	332
Niagara Machine & Tool Works, Buffalo, N. Y.	Presses, shears, bending, brakes	Yes	333
W. H. Nichols & Sons, Waltham, Mass.	Milling (hand)	No	339
Norton Co., Worcester, Mass.	Grinding, lapping	Yes	339
The S. Obermayer Co., Chicago, Ill.	Sprue cutting	No	341
The Ohio Machine Tool Co., Kenton, Ohio	Shapers, planers; milling (miscell.), boring (horiz.)	Yes	341
Oilgear Co., Milwaukee, Wis.	Broaching, presses	Yes	342
Oliver Instrument Co., Adrian, Mich.	Grinding (miscell.), filing	Yes	343
Oster Mfg. Co., Cleveland, Ohio	Threading	Yes	344
Pawtucket Mfg. Co., Pawtucket, R. I.	Shears, forging, miscellaneous	Yes	345
*Peck, Stow, & Wilcox Co., Southington, Conn.	Bending, presses, punching, shearing, brakes	No	---
Pedrick Tool & Machine, Philadelphia, Pa.	Grinder (disk), bending mach.	Yes	346
Peerless Machine Co., Racine, Wis.	Saws	Yes	346
Perkins Machine Co., Warren, Mass.	Presses	Yes	348
Pettinell Machine Co., Amesbury, Mass.	Hammers shears	No	348
Pope Machine Co., Seattle, Wash.	Bending rolls	Yes	349
Porter-McLeod Machine Tool Co., Hatfield, Mass.	Lathe (engine), saws	Yes	349
Potter & Johnston Machine Co., Pawtucket, R. I.	Automatic	Yes	350
Pratt & Whitney, West Hartford, Conn.	Lathe (engine), shaper, chambering, drilling (miscell.), jig borer, milling (miscell.), grinding (surf., miscell.), thread miller, profiler, miscellaneous	No	351
Producto Machine Co., Bridgeport, Conn.	Gear cutting, milling (miscell.)	Yes	353
Production Eng. Co. (Autometric Machine Tool Co.), Berkeley, Calif.	Jig boring, boring	No	353
Providence Eng'g Works, Providence, R. I.	Drills (sens.)	Yes	353
Quickwork-Whiting Div. (George Whiting Corporation), Chicago, Ill.	Shears, hammer	Yes	354
Racine Tool & Machine Co., Racine, Wis.	Saws	Yes	355
*Rafter Machine Co., Belleville, N. J.	Shears, cold metal roll forming and hand slitting mach.	No	---
Rasmussen Machine Co., Racine, Wis.	Saws	No	356
Reed-Prentice Corporation, Worcester, Mass.	Lathe (eng.), milling (vert.), jig boring	Yes	357
Reid Brothers Co., Beverly, Mass.	Grinders (surf.)	No	357
Rhodes Machine Co., Lynn, Mass.	Vert. band profiler	No	357
Rhodes Mfg. Co. (see B. C. Ames Co.), Waltham, Mass.		No	84
Rickert-Shafer Co., Erie, Pa.	Threading, tapping	Yes	358
Rivett Lathe & Grinder, Inc., Brighton, Boston, Mass.	Grinders (internal); lathe (miscell.)	Yes	358
Rockford Iron Works, Rockford, Ill.	Presses	Yes	359
Rockford Machine Tool Co., Rockford, Ill.	Shaper, planer, slotter	Yes	360
Rogers, Machine Works, Inc., Alfred, N. Y.	Boring (vert.)	Yes	360
Rowbottom Machine Co., Waterbury, Conn.	Milling (miscell.)	Yes	361
Royersford Foundry & Machine Co., Royersford, Pa.	Drills, foot presses, grinders, etc.; saws, polish	No	361
W. J. Savage Co., Knoxville, Tenn.	Nibbling	Yes	362
Sebastian Lathe Co., Cincinnati, Ohio	Lathe (eng.)	No	362
William Sellers & Co., Inc., Philadelphia, Pa.	Boring, grind (cut. and tool), planers	Yes	363
Seneca Falls Machine Co., Seneca Falls, N. Y.	Lathe (eng.) and miscell.	Yes	363
Sheldon Machine Company Inc., Chicago, Ill.	Lathe (eng.), presses (arbor)	No	369
Sibley Machine & Foundry Co., South Bend, Ind.	Drilling (heavy duty)	Yes	369
Sidney Machine Tool Co., Sidney, Ohio	Lathe (eng.)	Yes	370

ALPHABETICAL LIST OF MACHINE TOOL MANUFACTURERS WITH PRICES IN EFFECT AS OF MARCH 1, 1941—Continued

Name and city		Serial No.	Page
Sigourney Tool Co., Hartford, Conn.	Drills (sens.)	No.	371
Simmons Machine Tool Corporation, Albany, N. Y.	Screw mach., lathes (eng. turret), miller (miscell.)	No.	371
Simplicity Mfg. Co., Port Washington, Wis.	Grinder (piston)	No.	372
Smalley General Co., Bay City, Mich.	Thread miller	Yes	373
Smith and Mills Co., Cincinnati, Ohio	Shapers	Yes	373
Sommer & Adams Co., Cleveland, Ohio	Cleveland vert. mill	No.	373
Sommerfeld Machine Co., Braddock, Pa.	Lathes (eng.)	No.	374
South Bend Lathe Works, South Bend, Ind.	Lathes (eng.)	Yes	374
The Springfield Machine Tool Co., Springfield, Ohio	Lathes (eng.)	Yes	376
Standard Engineering Works, Pawtucket, R. I.	Milling (hand)	Yes	377
Standard Machinery Co., Providence, R. I.	Presses, hammers, swaging, miscellaneous	Yes	377
*The Charles Stecher Co., Chicago, Ill.		No.	---
John B. Stevens, Inc., New York, N. Y.	Slotters, screw machine	Yes	378
Stokerunit Corporation, Milwaukee, Wis.	Simpler pre., boring mach. and spades	No.	378
Storm Mfg. Company, Inc., Minneapolis, Minn.		Yes	380
Streine Tool & Mfg. Co., New Bremen, Ohio	Shears	Yes	380
Sundstrand Machine Tool Co., Rockford, Ill.	Grinding, lathes, centering, milling	Yes	383
Superior Machine & Engineer Co., Detroit, Mich.	Milling (miscell.)	Yes	384
*F. J. Swaine Manufacturing Co., St. Louis, Mo.	Grinder	No.	384
Taft-Pierce Manufacturing Co., Woonsocket, R. I.	Milling (vert.), drilling (sens), grinder (cutt. and tool)	Yes	384
Taylor & Fenn Co., Hartford, Conn.	Punching, shearing, special	Yes	---
*Thomas Machine Manufacturing Co., Pittsburgh, Pa.	Grinders (miscell.) (surface)	Yes	385
Thompson Grinder Co., Springfield, Ohio		No.	---
*Toledo General Manufacturing Co., Toledo, Ohio	Threading	Yes	388
Toledo Pipe Thread Machine Co., Toledo, Ohio	Swaging	Yes	388
Torrington Co., Torrington, Conn.	Grinders, pol. and buff.	Yes	389
The U. S. Electrical Tool Co., Cincinnati, Ohio	Milling (hand)	No.	391
U. S. Machine Tool Co., Cincinnati, Ohio	Miller (miscell.)	No.	392
U. S. Tool Company, Inc., Ampere, N. J.	Boring (horiz.)	No.	392
Universal Boring Machine Co., Hudson, Mass.	Presses	Yes	393
V. & O. Press Co., Hudson, N. Y.	Milling	Yes	394
Van Norman Machine Tool Co., Springfield, Mass.	Presses	Yes	395
Verson Allsteel Press Co., Chicago, Ill.	Grinder (surf.)	Yes	396
O. S. Walker Company, Inc., Worcester, Mass.	Saw, drill (sens.), grinder	No.	397
Walker Turner Company, Inc., Plainfield, N. J.	Presses	Yes	397
Walsh Press & Die Co., Chicago, Ill.	Screw machine, lathes (turret)	Yes	398
Warner & Swasey Co., Cleveland, Ohio	Forging, presses, lathes, miscellaneous	Yes	398
Waterbury Farrell Foundry & Machy. Co., Waterbury, Conn.	Bending, presses, forging	Yes	---
*Watson-Stillman Co., Roselle, N. J.	Presses	No.	402
Frank L. Wells Co., Kenosha, Wis.	See Davis keyseaters	Yes	177
West Tire Setter Co., Rochester, N. Y.	Drill (radial) shapers, tappers, lathes (engine)	Yes	402
Western Machine Tool Works, Holland, Mich.	Bending, presses, punching	Yes	403
Whitney Metal Tool Co., Rockford, Ill.	Centering, gear cutter	No.	404
D. E. Whiton Machine Co., New London, Conn.	Grinding (int.), oil grooving	Yes	405
Wicaco Machine Corporation, Philadelphia, Pa.	Lathes (engine)	Yes	405
Wickes Bros., Saginaw, Mich.	Turret, punch	No.	---
*Wiedemann Machine Co., Philadelphia, Pa.	Presses, bulldozers, hammers, punch, and shear	Yes	406
Williams-White & Co., Moline, Ill.	Hammers, boring mill (horiz.), miscellaneous	No.	411
Yoder Co., Cleveland, Ohio	Presses	Yes	412
Zeh & Hannemann, Newark, N. J.			

EQUIVALENTS

In the following pages are listed a number of obsolete machines and the equivalents to be used.

Care should be exercised that the type, size and model number taken as an equivalent corresponds to that of the obsolete machine in question.

In doubtful cases send the serial number, specifications and photograph of machine to Office of Price Administration for decision.

Equivalents on machines no longer manufactured by the companies listed below have been shown immediately following the price data for said companies.

Bardons & Oliver, Inc.	New Britain-Gridley Machine Tool Co.
Brown & Sharpe Manufacturing Co.	Co.
International Machine Tool Co.	Pratt & Whitney.
"Libby."	Van Norman Machine Tool Co.
Kearney & Trecker.	Warner & Swasey.
National Acme Co.	

AUTOMATICS

OBsolete MACHINES	EQUIVALENTS
Chicago	Cleveland
Cincinnati	National Acme
Gridley (single spindle)	Cleveland
Hartford up to 1"	Brown & Sharpe
Hartford over 1"	Cleveland
Pratt & Whitney	Cleveland
Prentice #73	\$4,500

BORING MILL (HORIZONTAL) FLOOR TYPE

	Up to 3 1/4" cap.	Over 3 1/4" cap. use prices shown with exceptions noted
Beaman & Smith		4 " cap.—\$8,000
Betts		4 1/2" cap.—9,000
Cuffman (Franklin)		5 " cap.—10,500
Detrick & Harvey		5 1/2" cap.—11,000
Fosdick		6 " cap.—12,000
Newton		7 " cap.—15,000
Niles		8 " cap.—17,500
Pawling & Harneschfeger		
Pedrick & Ayres		
Ryerson		
Rochester	Use Cincinnati-Gilbert Machine Tool Co.	
	Giddings & Lewis Machine Tool Co.	

BORING MILL (HORIZONTAL) TABLE TYPE

Beaman & Smith	Lucas Machine Tool Co.
Betts	Do.
Binse	Do.
Cleveland	Do.
Coffman	Do.
Fosdick	Do.
Lambert	Yoder Machine Tool Co.
Landis	Lucas Machine Tool Co.
Lucas Duplex 2 1/4"	\$10,000.
Lucas three way	\$12,000.
Morris	Lucas Machine Tool Co.
Niles	Do.
Rochester	Do.
Rockford Duplex (Bar)	Price—\$8,000.
Rockford	{Single—\$2,000.
Barnes } Horizontal drills	{Double—\$3,000.

BORING MILL (VERTICAL)

NOTE: Prices of General Machinery do not include electrical equipment. Up to 36" single head machines compare to Rogers. On all mills over 36" and up to and including 48" use Bickford—48"—\$7,000. Over 48" and up to 73" use General. Over 73" and up to 120" use King. Above 120" add \$7,500 for each 2" bed, except those listed below.

American.....	General Machinery Corporation.
Baush and Harris.....	Do.
Baush.....	Do.
Bement.....	Do.
Betts.....	Consolidated Machine Tool Corporation.
Bickett.....	General Machinery Corporation.
Bridgeport.....	Bickford.
Brown & Sharpe.....	Rogers Machine Works.
Bullard Maximill.....	Bullard Standard Vertical Turret Lathe.
Bullard—rail type.....	General Machinery Corporation.
Bullard—rapid production vert. turret Lathe and New Era.....	Bullard.
Gisholt.....	Do.
Niles.....	Do.
Pond.....	Do.
Poole.....	Do.
Rogers-Hemphill.....	Bickford.
Schuckhardt & Schutte.....	General Machinery Corporation.
Warner & Swasey.....	Rogers Machine Works.

BULLDOZERS

Ajax.....	Williams-White & Co.
Blackeslee.....	Do.
Long & Alstader.....	Do.
Lourie, Springfield, Ill.....	Do.
National.....	Do.
Rock River.....	Do.
Ryerson-Kling.....	Do.
Walburn-Swenson.....	Do.

CENTERING

Use equivalents shown for double-end machines. On single-end take 75 percent of amounts shown.

Cadillac.....	Sundstrand Machine Tool Co.
Garvin.....	Do.
Hanson-Whitney.....	Do.
Hendey.....	Do.
Pratt & Whitney.....	Do.
Whiton.....	Do.

DRILLS (RADIAL), GEARED

Baush 7' flat.....	Western Machine Tool Works (Leader type).
Cisco.....	Cincinnati-Gilbert Machine Tool Co.
Dresses.....	Cincinnati Gilbert Machine Tool Co.
Dresses (Flat Face Col.).....	Western Machine Tool Works (Leader type).
Economic.....	Canedy-Otto Mfg. Co.
Fosdick (Flat Face Col.).....	Western Machine Tool Works (Leader type).
Gang.....	Canedy-Otto Mfg. Co.
Hamilton.....	American Tool Works.
Harrington.....	Western Machine Tool Works (Leader type).
Mueller.....	Cincinnati-Gilbert Machine Tool Co.
Niles.....	General Machinery Corporation.
Prentice.....	Western Machine Tool Works (Leader type).
Ryerson-Conradson.....	American Tool Works.

DRILLS (RADIAL) SENSITIVE

Almond.....	Footo-Burte (Hammond Co.)
American—fixed arm.....	Canedy-Otto Mfg. Co.
Carlton.....	Canedy-Otto Mfg. Co.—3' 9" column.
Dauber & Krantsch.....	Canedy-Otto Mfg. Co.
Taylor & Fenn.....	Do.

DRILLS (UPRIGHT)

Any drill not listed below is to be compared with Sibley.

American.....	Cincinnati-Bickford Machine Tool Co.
Aurora.....	Do.
Barnes, W. F. & J.....	Sibley Machine & Foundry Corporation.
Cleveland.....	Do.
Garvin.....	Do.
Hamilton.....	Cincinnati-Bickford Machine Tool Co.
Hofer.....	Sibley Machine & Foundry Corporation.
Kerns.....	Do.
Kokomo.....	Cincinnati-Bickford Machine Tool Co.
Mechanics.....	Sibley Machine & Foundry Corporation.
Rockford.....	Do.
Snyder.....	Cincinnati-Bickford Machine Tool Co.
Superior.....	Do.
Weigel.....	Do.

DRILLS (RAIL)

All other rail similar in weight or size to those listed below compare with Footo-Burte.

Harrington (rail).....	Footo-Burte Co.
Niles.....	Do.

DRILLS (MULT.)

Boley (drill press).....	Natco D-5 (National Automatic Tool Co.)
Baush (mechanical feed).....	Natco (National Automatic Tool Co.)
Buhr.....	Natco D-5 (National Automatic Tool Co.)
Fox.....	Natco (National Automatic Tool Co.)
Gardam.....	Do.
Harrington.....	Do.
Pratt & Whitney.....	Do.
Western.....	Do.

DIE FILERS

Barry & Barry.....	Oliver Instrument Co.
Bauer.....	Do.
Rearvin.....	Do.

GEAR MACHINERY

Bilton.....	Producto Machine Co.
Brainerd.....	Adams Co.
Cincinnati (gear cutter).....	Newark Gear Cutting Machine Co.
Cincinnati (gear hobber).....	Barber-Colman Co.
Pfauter hobber to and incl. 12".....	Adams Co. (hobber).
Pfauter hobber over 12".....	Gould & Eberhardt.
Pfauter gear cutter.....	Newark Gear Cutting Machine Co.
Schurhardt & Schutte.....	Gould & Eberhardt.
Whiton.....	Adams Co.

GRINDERS (INSERTED TOOTH)

Cincinnati.....	Oliver #2—Oliver Instrument Co.
Gisholt.....	Do.
Gould & Everhardt (tub grind.).....	Do.
Ingersoll (tub grind.).....	Do.

GRINDERS (CYLINDRICAL)

Diamond.....	Fitchburg Grinding Machine Co.
Fraser #1:	
18 x 8.....	Fitchburg 6 x 32 (Fitchburg Grinding Machine Co.).
10 x 18.....	Do.
6 x 16.....	Fitchburg 6 x 18 (Fitchburg Grinding Machine Co.).
8 x 30.....	Fitchburg 6 x 32 (Fitchburg Grinding Machine Co.).
Automatic #142.....	Arter 4 x 32—\$6,100 (Arter Grinding Machine Co.).
Fitchburg 8 x 20.....	Fitchburg Grinding Machine Co. (6 x 32).
Greenfield #1—5 x 12.....	Simplicity—7 x 8—\$675 (Simplicity Mfg. Co.).
Iroquois 10 x 28.....	Fitchburg 6 x 32 (Fitchburg Grinding Machine Co.).
Lea #3—14 x 50.....	Landis 14 x 50 (Landis Tool Co.).
Modern.....	Landis Tool Co.
Morse #1.....	Fitchburg Grinding Machine Co.
Morse No. 2.....	Do.
Ott.....	Do.
Queen City:	
12 x 48.....	Landis Tool Co.
14 x 72.....	Do.
Webster & Parks.....	Fitchburg 6 x 32 (Fitchburg Grinding Machine Co.).
Taft-Pierce.....	Fitchburg 6 x 32.

GRINDERS (DISC)

Badger.....	Gardner Machine Co.
Diamond.....	Do.
Gorton.....	Do.
Graham.....	Do.
Oliver.....	Do.
Superior.....	Do.

GRINDERS (INTERNAL)

Capitol.....	\$1,600.
Cincinnati.....	Heald Machine Co.
Churchill-Morgan.....	\$4,000.
Greenfield Hydroil #51.....	Heald #70A—Belt Drive—\$4,265.
Greenfield Hydroil #52.....	Heald #72A3 Belt—\$5,360.
Greenfield Hydroil #28.....	Heald #74—\$8,690.
Hanson-Whitney.....	\$1,600.
Mayer and Schmidt.....	\$2,100.
Schmidt.....	\$2,100.
Micro.....	\$2,100.
Taylor and Fenn.....	\$4,000.
Terromatic (G&L).....	Heald Machine Co.
Tindell Morris.....	\$3,000.
Baxter D. Whitney (cylinder).....	\$2,100.

GRINDERS (SURFACE)

American.....	Reid Bros. Co.
Badger.....	Gardner Machine Co.
Binsee.....	Reid Bros. Co.
Bristol.....	Heald Machine Co.
Diamond #1.....	\$1,820.
Diamond #2.....	\$2,320.
Diamond #3.....	\$2,820.
Diamond #4.....	\$3,320.
Diamond #5.....	\$3,820.

¹Simplicity Mfg. Co., Port Washington, Wis.

GRINDERS (SURFACE)—Continued

Diamond #6.....	\$4,320.
Illinois (power feed).....	Reid Bros. Co.
LaSalle.....	Gerity-Adrian \$1,185.
Wilmarth & Morman #1 (6 x 18).....	\$650—hand feed.
Wilmarth & Morman #2 (8 x 20).....	\$1,500—hand feed.
Wilmarth & Morman #3 (8 x 24).....	\$1,800—power feed.
	\$2,200—power feed.

ROTARY TABLE—HORIZONTAL SPINDLE GRINDER (SURFACE)

Bristol 8' belt driven.....	\$1,500.
Bristol 12' belt driven.....	\$2,000.
O. S. Walker.....	Heald Machine Co.

GRINDERS (FACE)

Diamond (30' or 36' wheel size).....	Bridgeport Safety Emery Wheel Co.—#85.
--------------------------------------	--

GRINDERS (PLANNER TYPE)

Springfield.....	\$4,000.
------------------	----------

GRINDERS (TOOL AND CUTTER)

All-Angle.....	Gallmeyer & Livingston.
Dauber & Kratch.....	Do.
Greenfield.....	Do.
Landis.....	Do.
Oakley.....	Do.
Ohio.....	Do.
Osterlein.....	Do.
Stoll.....	Do.
Walker.....	Do.
Wells.....	Do.
Wilmarth & Morman.....	Do.
Woods.....	Do.

IRON WORKERS

Amplex.....	Buffalo Forge Co.
Beatty.....	Do.
Kent-Owens.....	Do.
Long & Alstatter.....	Do.
Oeking.....	Do.
Pels.....	Do.
Schatz.....	Do.
Smith.....	Do.

LATHES (ENGINE)

Amtew.....	South Bend Lathe Works.
Barnes.....	Nebel Machine Tool Co.
Blaisdell.....	Do.
Bridgeport.....	General Machinery Corporation.
Champion (Champion Blower & Forge).....	South Bend Lathe Works.
Champion (Champion Tool Works).....	Nebel Machine Tool Co.
Cisco.....	Do.
Davenport.....	Do.
Davis 12'.....	South Bend Lathe Works.
Davis 14'.....	Nebel 16' cone—\$1,325.
Davis 16'.....	Nebel 18' cone—\$1,385.
Davis 18'.....	Nebel 18'—\$2,000.
Davis over 18'.....	Nebel Machine Tool Co.
Draper.....	Do.
Fay & Scott.....	Do.

LATHES (ENGINE)—Continued

Fifield.....	Wickes Stand.
Fitchburg (Eng.).....	Nebel to 36"—General above 36".
Fitchburg (Lo Swing).....	Seneca Falls (Lo Swing) Machine Co.
Flathers.....	Nebel Machine Tool Co.
Fulton.....	Do.
Giddings & Lewis.....	Do.
Greaves & Klusman.....	Boye & Emmes to 36"—over 36"—General.
Hamilton.....	Lehmann Machine Co.
Harrington.....	General Machinery Corporation.
Houston-Stanwood & Gamble.....	LeBlond, R. K., Machine Tool Co.
Illinois.....	South Bend Lathe Works.
Johnson.....	Wickes (Stand.)
Lodge & Davis.....	Nebel Machine Tool Co.
Meyers.....	South Bend Lathe Works.
Miami.....	Do.
Milwaukee.....	Nebel Machine Tool Co.
Morris.....	South Bend Lathe Works.
Mueller.....	Nebel Machine Tool Co.
Mulliner.....	Hendey Machine Co. (cone).
National.....	Nebel Machine Tool Co.
New Haven.....	Nebel under 27" General for 27" and over.
Niles.....	General Machinery Corporation.
Niles-Bement-Pond.....	Do.
Oliver Cone Drive.....	Nebel Machine Tool Co.
Oliver-Geared.....	Sebastian.
Pittsburgh.....	General Machinery Corporation.
Pond.....	Do.
Porter.....	Nebel Machine Tool Co.
Prentice 12".....	Do.
Prentice 14".....	Nebel 16" cone—\$1,325.
Prentice 16".....	Nebel 18" cone—\$1,385.
Prentice 18".....	Nebel 18"—\$2,000.
Prentice over 18".....	Nebel Machine Tool Co.
Prentiss Bros.....	Do.
Putnam.....	General Machinery Corporation.
Reed, F. E. 12".....	South Bend Lathe Works.
Reed, F. E. 14".....	Nebel 16" cone—\$1,325.
Reed, F. E. 16".....	Nebel 18" cone—\$1,385.
Reed, F. E. 18".....	Nebel 18"—\$2,000.
Reed, F. E. over 18".....	Nebel Machine Tool Co.
Reed-Prentice.....	Reed-Prentice 20" and under—over 20"
Reed-Prentice Production.....	Nebel.
Rockford to and including 16".....	Sundstrand Automatic—Sundstrand Ma-
Rockford over 16".....	chine Tool Co.
Ryerson-Conradson.....	D & M—Torrance, Calif.
Simplex Cone.....	Lehmann Machine Co.—cone drive.
Simplex Geared 12".....	Lehmann Machine Co.
Sundstrand Rockford Tool Room.....	South Bend to 16"—over 16" Nebel.
Superior.....	D. & M.—\$1,590.
Van Wyck.....	Hendey cone—Hendey Machine Co.
Vernon.....	Nebel Machine Tool Co.
Walcott 12".....	Do.
Walcott 14".....	South Bend Lathe Works.
Walcott 16".....	Do.
Walcott 18".....	Nebel 16" cone—\$1,325.
Walcott over 18".....	Nebel 18" cone—\$1,385.
Whitcomb-Blaisdell.....	Nebel 18"—\$2,000.
Willard.....	Nebel Machine Tool Co.
Willard geared head.....	Nebel Machine Tool Co.
Worcester.....	South Bend Lathe Works.
Wright.....	Wickes (Stand.)

LATHES (TURRET)

Biggs.....	Foster Div. (Internat'l Mach. Tool Corpo- ration).
Bridgeport.....	Do.
Bullard—Rapid Production and New Era.....	Bullard.
Bullard—Horizontal 22"—2½"— S. B. G.....	\$3,000.
Bullard—Horizontal 22"—2½"— D. B. G.....	\$3,500.
Bullard—Machine "H" 2½"— D. B. G.....	\$4,000.
Conradson.....	Gisholt Machine Co.
Davis.....	Foster Div. (I. M. T. Corporation).
Dresses.....	Foster Div. (Internat'l Mach. Tool Corpo- ration).
Economic.....	South Bend Lathe Works.
Federal.....	Bardons & Oliver.
Garvin.....	Foster Div. (Internat'l Mach. Tool Corpo- ration).
Greenlee.....	Jones & Lamson Machine Co.
Miltholland.....	Foster Div. (Internat'l Mach. Tool Corpo- ration).
Niles.....	Gisholt Machine Co.
Pearson.....	Foster Div. (Internat'l Mach. Tool Corpo- ration).
Pierce.....	Do.
Smurr & Kamer.....	Do.
Southworth.....	Warner & Swasey.
Springfield (not Fox type).....	Foster Div. (I. M. T. Corporation).
Steinle.....	Gisholt Machine Co.
Stecher.....	Foster Div. (Internat'l Mach. Tool Corpo- ration).
Superior.....	Do.
Windsor.....	Do.
Woods.....	Bardons & Oliver, Inc.

LATHES (FOX)

American.....	Cone Driven \$1,200.
Dresses.....	Do.
Bardons & Oliver.....	Do.
Warner & Swasey.....	Do.
Springfield.....	Do.

LATHES (SPINNING)

Atlantic.....	Prybil. ¹
Ballard.....	Do.
Schultz and any other.....	Do.

LINCOLN TYPE MILLS

Specify table size and travel for comparison.

American.....	Gooley & Edlund (Cooper Bros.).
Becker.....	Do.
Becker-Brainerd.....	Do.
Bilton.....	Do.
Carter & Hakes.....	Do.
Cincinnati.....	Pl. Auto No. 1-12.
Dalton.....	Gooley & Edlund (Cooper Bros.).
Fox.....	Do.
Garvin.....	Do.
Hartford.....	Do.
Hendey.....	Do.
Hoefer.....	Do.

¹B. S. Hepworth Co., Long Island City, N. Y.

LINCOLN TYPE MILLS—Continued

Kempsmith #32	\$3,500.
Kempsmith #33	\$4,500.
Potter & Johnson	Gooley & Edlund.
Productomatic	Producto Machine Co.
Putnam	Gooley & Edlund (Cooper Bros.).
Reed, F. E.	Do.
Rockford	Do.
Sellers	Do.
Warner & Swasey	Do.

MILLERS (CAM)

Bilton	Producto Machine Co.
Garvin	Frew Machine Co.

MILLS—HAND

Armour	U. S. Machine Tool Co.
Auerbach	Do.
Atlas	Do.
Bickford	Standard Engineering Works.
Bickett	U. S. Machine Tool Co.
Brainerd	Standard Engineering Works.
Brown & Sharpe #00	Do.
Carter & Hakes #3	Do.
Chicago	Do.
Cincinnati #0	#3 Frew Machine Co.
Farwell	Standard Engineering Works.
Fox #1 & #2	#1 & #2 Standard Engineering Works.
Fox #3	#3 Frew Machine Co.
Fraser #1	U. S. Machine Tool Co.
Garrigus	Standard Engineering Works.
Garvin #1 & #2	#1 & #2 Standard Engineering Works.
Garvin #3	#3 Frew Machine Co.
Kempsmith #2	Do.
Larce	U. S. Machine Tool Co.
Newton	#3 Frew Machine Co.
Mossberg & Granville	Standard Engineering Works.
New Atlantic	Do.
Niles	Do.
Pratt & Whitney #1½	#3 Frew Machine Co.
Reed	Do.
Rockford	Do.
Smith	U. S. Machine Tool Co.
Steptoe	#3 Frew Machine Co.
Superior	Do.
Toledo #1	Do.
Van Norman #1	Do.
Vulcan	U. S. Machine Tool Co.
Whitney	Standard.
Wisconsin	Standard.

On all other hand drills not manufactured 3/1/41 use U. S. Machine Tool Co.

MILLS (HORIZONTAL)

American	Kempsmith Machine Co. (cone).
Becker	Do.
Cincinnati Duplex, mechanical feed.	Cincinnati, hydromatic, plain; \$5,125, \$7,320, \$9,115, \$11,620.
Cleveland	Kempsmith Machine Co. (max.).
Dow, B. G.	Kempsmith Machine Co. #1 (cone).
Fox (all sizes)	Do.
Garvin	Kempsmith Machine Co. (cone).
Garvin Duplex #1	\$2,250.
Garvin Duplex #2	\$2,500 (belt).
Garvin Duplex #3	\$2,750.
Grand Rapids	Kempsmith Machine Co. (cone).
Hendy Norton	Kearney & Trecker Type H.
Ingersoll #5	\$8,140.
LeBlond (cone) over #1	Kempsmith (max.) ded. 20% for cone drive.

MILLS (HORIZONTAL)—Continued

LeBlond (geared)	Kempsmith Machine Co. (max.).
LeBlond #1 cone plain	Kempsmith #1, Pl. Type G—\$3,675 less 20% for cone.
LeBlond #1 cone universal	Kempsmith #1, Universal Type G—\$4,350 less 20% for cone.
National Transit	Kempsmith Machine Co. (max.).
Oesterlein Ohio geared	Do.
Oesterlein Ohio cone	Kempsmith Machine Co. (cone).
Oesterlein Ohio #40 tilted and offset.	\$7,500.
Oesterlein Ohio #48 tilted and offset.	\$8,140.
Owen	Kempsmith Machine Co.
Potter & Johnson 2M	Cincinnati Hydro (Cinn. Milling & Grinder Co.).
Rockford (cone)	Kempsmith Machine Co. (cone).
Rockford (geared)	Kempsmith Machine Co. (max.).
Ryerson-Conradson	Do.
Steptoe	Kempsmith Machine Co. #1 Pl. cone.
Valley City	Kempsmith Machine Co. (cone).

MILLER (VERTICAL)

Becker	See Reed-Prentice list of Becker Mills.
Becker-Brainerd	Do.
Bickett	Do.
Billings & Spencer Die Sinker	Do.
Blake & Johnson	Do.
Bristol	Do.
Espen-Lucas	Do.
Garvin	Do.
Gould & Eberhardt	Do.
Jackson Die Sinker #5	Do.
Jackson Die Sinker #8	Do.
Newton	Do.
Niles	Do.
Niles-Bement-Pond	Do.
Potter & Johnson	Do.
Putnam	Do.
Rockford	Do.
Taylor & Fenn	Do.
Toledo	Do.
Warner & Swasey	Do.
#3 Ingersoll Vertical	\$8,140.

BECKER VERTICAL MILLS

Model No.	Drive	Price Mar. 1, 1941, new	Weight	Feeds		P—Power	
				Long	Cross	V. knee	V. head
1	Cone	\$800	900				
2	do	950	1,000	12"	11"	16"	2"
2H	do	1,300	1,345	16"	8"	16"	2"
2A	do	1,350	1,360	P19"	11"	16"	3"
3	do	1,750	1,900	P21"	12"	17"	3½"
3H	do	1,950	1,940	27"	10"	17"	3½"
4B	do	3,000	2,540	P28"	14"	19"	5"
AB	Gear box	3,500	3,234	P32"	P14"	P14"	P4"
5	Cone	4,000	5,000	39"	14"	Vert. travel	7"
5B	do	4,450	4,500	P32"	P12"	12"	P4"
5C	do	4,750	5,000	P54"	P16"	18"	P8½"
B	Gear box	5,000	5,200	P36"	P14"	12"	P4"
C	do	6,250	7,700	P43"	P15½"	P15"	P8½"
C1	do	6,500	7,800	P55"	P15½"	P15"	P8½"
C2	do	7,000	7,800	P68"	P15½"	P15"	P8½"
6	Cone	8,000	8,400	P62"	P20"	P22"	P12"

Model SD Becker Vertical High-Power Milling Machine with a 40" rotary table, weight 17800#. No equivalent, Mar. 1, 1941, price \$6,875.

Model B-1 with rotary table, weight 6200#. No equivalent, Mar. 1, 1941, price \$2,950.

Model C Becker Continuous Rotary Miller, weight 8400#. No equivalent, Mar. 1, 1941, price \$5,450.

Model CS Continuous-Operation Circular Machine, weight 8800#. No equivalent, Mar. 1, 1941, price, \$4,680.

PLANERS

For double housing type use *Cincinnati*—for open-side type use *Cleveland*.
On planers shown below with an asterisk or any others not built on March 1, 1941—50 percent is to be deducted from prices listed by the companies shown to the right, to get the equivalent price.

The 24" x 24" x 6' Cincinnati double housing standard is to be used as an equivalent on any double housing planer of smaller dimensions—50 percent of amount given to be deducted to arrive at the base price.

The 26" x 26" x 6' Cleveland open-side planer is to be used as an equivalent on any openside planer of smaller dimensions—50 percent of amount given to be deducted to arrive at the base price.

*Ames	*Flather	Smith Silk
American	*Gleason	Pond
*Bedford	Gorton	Powell
*Belmar-Eames	Hamilton	*Pratt & Whitney
*Bertram	*Hendey	*Rochester
Bethlehem	*Lodge & Davis	Rockford
Betts	*Lynn-Farquar	*Whipp
Chandler	*New Albany	*Whitcomb
Detrick & Harvey	*New Haven	*Whitcomb-Blaisdell
*Dustin	*Patch	*Wheeler
*Ferris & Miles	*Pease	Woodward-Powell

Use Cincinnati Planer Co. or Cleveland Planer Co. in accordance with above instructions.

PRESSES (ARCH)

Holden.....	Use prices as shown below.
Leffler.....	Do.
R & K.....	American Can Co. ¹

FLYWHEEL

Weight—lbs.:	Price
3,600-4,000.....	\$1,210.00
4,000-4,700.....	1,370.00
4,700-5,200.....	1,510.00
5,200-6,000.....	1,925.00
6,000-8,000.....	2,195.00
8,000-12,000.....	2,945.00

GEARED

4,000-5,000.....	1,550.00
5,000-5,500.....	1,715.00
5,500-6,000.....	1,875.00
6,000-7,500.....	2,335.00
7,500-9,000.....	2,605.00
9,000-12,000.....	3,425.00

PRESS BRAKES

A & J.....	Dreis & Krump Mfg. Co.
Long & Allstatter.....	Do.
Bertch.....	Bertch.
Loy & Mawrath.....	Dreis & Krump Mfg. Co.
Ohl.....	Do.
Poorman.....	Do.
Robinson.....	Do.
Geo. Whiting.....	Geo. Whiting.

PRESSES (DOUBLE CRANK)

Michigan.....	Zeh & Hahnemann Co.
Stoll.....	Do.

¹ Information on American Can Co. can be obtained from company's Cincinnati office.

PRESSES (HORN)

Hartley.....	Rockford Iron Works.
Leffler.....	Do.
National.....	Do.
Stoll.....	Do.

PRESSES (O. B. I.)

Advance.....	Walsh Press & Die Co.
Baird.....	Do.
Crosby.....	Do.
Dries & Krump.....	Verson Allsteel Press Co.
Etna.....	Walsh Press & Die Co.
Henry-Wright.....	Verson Allsteel Press Co.
Michigan.....	Walsh Press & Die Co.
R & K ¹	American Can Co.
Verson (cast iron).....	Walsh Press & Die Co.
Willard.....	Do.

PRESSES (OPEN BACK)

Crosby.....	Niagra Machine & Tool Works.
National.....	Do.
Torris Wald.....	Do.
Wald.....	Do.
Willard.....	Do.

PRESSES (SPRUE CUTTER)

Milwaukee.....	Obermayer, S., Co. ²
Scully.....	Do.
Tessmer.....	Do.

PROFILERS

Garvin.....	Frew Machine Co.
Leland-Gifford.....	Do.
Newton.....	Do.
Nube.....	Pratt and Whitney Keller Type E-6.
Reed-Prentice.....	Frew Machine Co.

PUNCHES (GANG)

All gang presses not listed and not being manufactured—Williams & White.	
Bertsch.....	Williams & White.
Long & Allstatter.....	Do.

PUNCHES (SINGLE END)

Buckley.....	Williams-White & Co.
Camden.....	Do.
Etna.....	Do.
Long & Allstatter.....	Do.
Rock River.....	Do.
Stiles & Parker.....	Do.
Whiting.....	Do.

PUNCHES & SHEARS (DOUBLE END)

Badger.....	Williams-White & Co.
Camden.....	Do.
Long & Allstatter.....	Do.

SEAMERS (DOUBLE)

Holden.....	Callahan Can Machine Co.
Torris-Wold.....	Do.

¹ Information on American Can Company can be obtained in company's Cincinnati office.
² The S. Obermayer Company, Chicago, Ill.

SHAPERS

American.....	Gould & Eberhardt.
Columbia.....	Do.
Averbeck.....	
Barker.....	
Barker-Chard.....	For American & Columbia single pulley
Davis.....	drive use Gould & Eberhardt. For cone
Economic.....	drive use "Steptoe" manufactured by
Flather.....	Western Machine Tool Works.
Hamilton.....	On all other cone driven machines, sizes
Juengst.....	14" to 24" inclusive use Steptoe. For
Mattison.....	28" use base price of \$2,930.
Milwaukee.....	For size 32" and 36" use "Kelly" manu-
Niles.....	factured by General Engineering &
Potter & Johnson.....	Manufacturing Co. and deduct \$195.
Queen City.....	For geared head 14" to 24" inclusive add
Sterline.....	\$195 to price of Steptoe. For 28" use
Stockbridge.....	base price of \$3,150. For 32" and 36"
Springfield.....	use Kelly.
Walcott.....	
Whip.....	

SHAPER PLANER—MECHANICAL (OPENSIDE AND DOUBLE HOUSING)

Cincinnati.....	\$3,000.00.
Coulter.....	\$3,000.00.
Lynn Farquhar.....	\$3,000.00.
Rockford.....	\$3,000.00.
Whipp.....	\$3,000.00.

SHEARS (ALLIGATOR)

Compared to.....	Hill Acme Co. (Canton Div.).
------------------	------------------------------

SHEARS (BAR AND ANGLE)

Carlin.....	Cleveland Punch & Shear Works Co.
Fisher.....	Do.
Garrison.....	Do.
Hilles & Jones.....	Do.
Long & Alstatter.....	Do.
Pels.....	Do.
United Engineering.....	Do.

SHEARS & PUNCHES (SINGLE AND DOUBLE END)

Badger.....	Williams-White & Co.
Buckley.....	Do.
Camden.....	Do.
Canton.....	Do.
Carlin.....	Do.
Etna.....	Do.
Garrison.....	Do.
Hilles & Jones.....	Do.
Long & Alstatter.....	Do.
Rock River.....	Do.
Stiles & Parker.....	Do.
Whiting.....	Do.

SQUARING SHEARS (FOOT & POWER)

Bliss.....	Niagara Machine & Tool Works.
Canton.....	Do.
Edwart & Kutscheid.....	Do.
Excelsior.....	Do.
Garrison.....	Do.
Hilles & Jones.....	Do.
Long & Alstatter.....	Do.
Loy & Nawrath.....	Do.
Ohl.....	Do.
Robinson.....	Do.
Stool.....	Do.
Toledo.....	Do.
Woodward.....	Do.

SHEARS (ROTARY)

Hilles & Jones.....	Quickwork Whiting Division, George Whit-
	ing Corporation.
Lennox.....	Do.
Long & Alstatter.....	Do.
Marshalltown.....	Do.
Yoder.....	Do.

SLOTTERS

Bement.....	Dill-Lobdell Car Wheel Co.
Bertram.....	Do.
Betts.....	Do.
Garvin.....	Rhodes (see B. C. Ames).
Hanson-Whitney.....	Pratt & Whitney.
New Haven.....	Dill-Lobdell Car Wheel Co.
Newton.....	Do.
Niles.....	Do.
Sellers.....	Do.
Putnam.....	Do.

ABRASIVE MACHINE TOOL CO., EAST PROVIDENCE, R. I.

	No. 3 machine	No. 33 machine
Last serial No. for year:		
1919.....	273	None
1929.....	1374	363
1935.....	1562	403

ACME MACHINE TOOL CO., CINCINNATI, OHIO

Last serial No. for year:	
1919.....	4545
1929.....	5697
1935.....	5907

ACME MACHINERY DIVISION, THE HILL ACME CO., CLEVELAND, OHIO

Last serial No. for year:	
1919.....	13647
1929.....	16256
1935.....	16497

THE ADAMS CO., DUBUQUE, IOWA

	Last serial No. for year—		
	1919	1929	1935
No. 1 Adams Gear Hobber.....	460	534	535
No. 2 Adams Gear Hobber.....	115	150	
No. 3 Adams Gear Hobber.....	114	141	142
No. 4 Adams Gear Hobber.....	225	247	249
No. 5 & 6 Adams Gear Hobber & Thread Millers and 5M & 6M Adams Jig Hobbers.....		13	20

AIRCRAFT MACHINERY CORPORATION, BURBANK, CALIF.

Last serial No. for year 1935.....	10035
------------------------------------	-------

ALBANY HARDWARE SPECIALTY MANUFACTURING CO., ALBANY, WIS.

Last serial No. for year:	
1919.....	1087
1929.....	1592
1935.....	1632

CHARLES G. ALLEN CO., BARRE, MASS.

Last serial No. for year:	
1919.....	10032
1929.....	13568
1935.....	14389

AMERICAN BROACH AND MACHINE CO., ANN ARBOR, MICH.

Last serial No. for year:	
1919.....	106
1929.....	676
1935.....	2209

AMERICAN TOOL WORKS CO., CINCINNATI, OHIO

Last serial No. for year:	
1919.....	50166
1929.....	58164
1935.....	59597

NOTE.—Serial numbers have run consecutively since 1898.

B. C. AMES CO., WALTHAM, MASS.

Bench lathes		Bench millers		Rhodes shapers and slotters (not made by Ames until 1929)	
1919.....	1163	1919.....	500	1929.....	2499
1929.....	2242	1929.....	703	1935.....	2593
1935.....	2400	1935.....	762		

THE MAX AMS MACHINE CO., BRIDGEPORT, CONN.

Serial No. of last machine manufactured during the year:	
No. 168 Double Seamer, 1919.....	42567
No. 168-B Double Seamer, 1929.....	61726
No. 751 Lining Machine, 1935.....	69396

ARMSTRONG-BLUM MANUFACTURING CO., CHICAGO, ILL.

		Last serial No. for year—		
		1919	1929	1935
Nos. 1 & 2 Marvel Hack Sawing Machines. These small models have never been serial numbered.				
Nos. 6 & 6A Marvel Hack Sawing Machines. New model brought out in 1930.....				6419
No. 4B Marvel Hack Sawing Machines. New model brought out in 1934.....				4540
No. 8 Marvel Metal Band Sawing Machines. Started serials in 1922.....			8676	8898
No. 18 Marvel Hack Sawing Machines. New model brought out in 1936.....				
Nos. 9 & 9A Marvel Hack Sawing Machines. New model brought out in 1931.....				9278

ARTER GRINDING MACHINE CO., WORCESTER, MASS.

		Last serial No. for year—		
		1919	1929	1935
Model A-1-8".....		231	503	R-2-46
Model A-1-12".....		12155	12243	R2-12251
Model A-16".....		1625	16100	R-2-16111

THE AVEY DRILLING MACHINE CO., CINCINNATI, OHIO

Last serial No. for year:	
1919.....	8297
1929.....	15454
1935.....	16428

AXELSON MANUFACTURING CO., LOS ANGELES, CALIF.

		Last serial No. for year—		
		1919	1929	1935
16 inch.....		381	648	664
18 inch.....		382	647	660
24 inch.....		376	643	665
30 inch.....			650	

BAKER BROS., INC., TOLEDO, OHIO

Last serial No. for year:	
1919.....	6022
1929.....	9334
1935.....	11141

BARBER-COLMAN CO., ROCKFORD, ILL.

		Last serial No. for year—		
		1919	1929	1935
No. 2 Hobbing Machine.....		40	198	
No. 12 Hobbing Machine.....		1637	3319	3582
No. 16 Hobbing Machine.....			26	17
No. 17 Hobbing Machine.....			13	26
Type "B" Hobbing Machine.....			7	1197
No. 3 Hobbing Machine.....		396	1050	252
Type "A" Hobbing Machine.....				12
Type "T" Hobbing Machine.....			51	358
No. 3 Hob Sharpening Machine.....			3	9
No. 4 Hob Sharpening Machine.....			35	52
Reamer Sharpening Machine.....				

NOTE.—At the present time Barber-Colman Co. also manufactures Type "D" Hobbing Machines, Type "S" Hobbing Machines, Type "V" Hobbing Machines and Combination Sharpening Machines but as none of these models were produced prior to 1936, they have not been included in the above list.

BARDONS AND OLIVER, INC., CLEVELAND, OHIO

Last serial No. for year:	
1919.....	9062
1929.....	10279
1935.....	10474

BARNES DRILL CO., ROCKFORD, ILL.

		Last serial No. for year 1919	
22" Single Spindle Drill.....		258	
22" Gang Drill.....		21-(259, 260)	
26" Single Spindle Drill.....		442	
26" Gang Drill.....		38-(131-2-3-	
20" Standard Single Spindle Drill.....		1582	
20" Self-Oiling Single Spindle Drill.....		0297	
20" Standard Gang Drill.....		246-(875-874)	
20" Self-Oiling Gang Drill.....		043-(139-40-1-2)	
24" Standard Single Spindle Drill.....		723	
24" Self-Oiling Single Spindle Drill.....		0158	
24" Gang Drill.....		52-(161-2-3-4)	

BARNES DRILL CO., ROCKFORD, ILL.—Continued

	Last Serial No. for Year 1929
20" Self-Oiling Single Spindle Drill.....	01272
20" Self-Oiling Gang.....	0233-(722-3)
210 Single Spindle Drill.....	B-354
210 Gang Drill.....	B-45-(338-9-40)
22" Self-Oiling Single Spindle Drill.....	663
22" Gang Drill.....	94-(664-5)
24" Single Spindle Drill.....	0641
24" Gang Drill.....	0105-(228-9-90)
242 Drill.....	D-305
242 Gang Drill.....	D-41-(301-2-3-4)
263 Drill.....	F-975
263 Gang Drill.....	F-50-(973-4)
211 Cam Driven Honer.....	B-304
212 Honer.....	B-348
214 Honer.....	BH-52
249 Honer.....	DH-40

Last Serial No. for Year 1935..... 285

NOTE.—Year of 1935 above company began numbering machines consecutively for entire line.

BARRETT MACHINE TOOL CO., MEADVILLE, PA.

Last serial No. for year:	
1919.....	2101
1929.....	2241
1935.....	2258

BEATTY MACHINE & MANUFACTURING CO., HAMMOND, IND.

Last serial No. for year:	
1919.....	650
1929.....	5912
1935.....	7800

BAUSCH MACHINE TOOL CO., SPRINGFIELD, MASS.

Last serial No. for year:	
1919.....	4613
1929.....	5279
1935.....	5437

BIGNALL & KEELER MACHINE WORKS, EDWARDSVILLE, ILL.

Last serial No. for year:	
1919.....	5199
1929.....	5744
1935.....	5790

THE BILLINGS & SPENCER CO., HARTFORD, CONN.

	Last serial No. for year—		
	1919	1929	1935
Board Drop Hammers.....	1853	2301	2315
Die Sinking Machine—Model M-19.....		43	49
Trimmer Miller—Model 21.....		38	47
Trimming Presses.....	250	335	336

BLANCHARD MACHINE CO., CAMBRIDGE, MASS.

Last serial No. for year:	
1919.....	1097
1929.....	2066
1935.....	2445

E. W. BLISS CO., BROOKLYN, N. Y.

	Last serial No. for year—		
	1919	1929	1935
Toledo Presses.....	13305	25068	27218
Consolidated Presses.....	3094	7972	9983
Brooklyn Presses.....	73522	98811	103362

THE BODINE CORPORATION, BRIDGEPORT, CONN.

Model 40—16 Machines Produced in 1935.

THE BOYE & EMMES MACHINE TOOL CO., CINCINNATI, OHIO

	Last serial No. for year—				Last serial No. for year—		
	1919	1929	1935		1919	1929	1935
14" Lathes.....		50 #1	50 #25	27" Lathes.....		500 #13	500 #16
16" Lathes.....		100 #9	100 #25	28" Lathes.....	182 #1166		
18" Lathes.....	300 #1	300 #243	300 #262	30" Lathes.....	108 #644	600 #35	600 #44
20" Lathes.....	142 #6	200 #165	200 #181	32" Lathes.....	111 #660	600 #36	600 #49
24" Lathes.....	406 #2509	400 #100	400 #115	36" Lathes.....	40 #172	600 #28	600 #50
26" Lathes.....	500 #2						

THE BRADFORD MACHINE TOOL CO., CINCINNATI, OHIO

(Last serial numbers and approx. year Lathes built)

Serial No.:	Year built
Series 1800 to 2000 inclusive.....	1915
Series 2100 to 2600 inclusive.....	1916
Series 2700 to 3100 inclusive.....	1917
Series 3200 to 3500 inclusive.....	1918
Series 3600 to 3800 inclusive.....	1919
Series 3900 and 4000.....	1920
Series 4100.....	1921
Series 4200.....	1922
Series 4300.....	1923
	to
	1926
Series 4400.....	1927
Series 4500.....	1928
	to
	1937

BRIDGEPORT SAFETY EMERY WHEEL CO., STRATFORD, CONN.

No serial numbers used in 1919 and 1929. Following apply to 1935:

17 M Buff Navy.....	BA-108
194 Buff.....	BA-109
117 C Single Wheel Grinder.....	J-101
QB Buff (10-27-33).....	BB-102
23 Buff.....	BB-112
185 Floor Grinder.....	FA-130
6 AC Floor Grinder.....	FA-129
7 AC Floor Grinder.....	FA-128
8 AC Floor Grinder.....	FA-127
1/4 AC Floor Grinder.....	FA-125
184 Floor Grinder.....	FA-122
186 Floor Grinder.....	FA-119
2 AC Floor Grinder.....	FA-113
161 Floor Grinder.....	FB-111

BRIDGEPORT SAFETY EMERY WHEEL CO., STRATFORD, CONN.—Con.

1 BD Floor Grinder.....	FB-109
74—170" Hyd. Grinder.....	H-110
74—50" Hyd. Grinder.....	H-111
74—156" Hyd. Grinder.....	H-113
48 Dry Cut-off Machine.....	A-113
179—60" Knife Grinder.....	M-113
3 TGM Tool Grinder.....	T-121
2 TGAM Comb. Twist Drill & Tool Grinder.....	T-120
2 TGM Tool Grinder.....	T-118
16 AC Buff.....	BA-104
15 AC Buff.....	BA-103
R BD Buff.....	BB-101
6 U Truing Lathe.....	FB-104
2 BD Floor Grinder.....	FB-103
74—100" Hyd. Face Grinder.....	H-109
84—110" Hyd. Face Grinder.....	H-108
74—90" Hyd. Face Grinder.....	H-107
74—70" Hyd. Face Grinder.....	H-102
74—170" Hydraulic Face Grinder.....	H-101
82—82" Knife Grinder.....	M-112
82—102" Knife Grinder.....	M-111
82—62" Knife Grinder.....	M-110
32—H Fur Knife Grinder.....	M-107
179—110" Knife Grinder.....	M-106
180—50" Knife Grinder.....	M-105
179—100" Knife Grinder.....	M-103
1 SFM Swing Grinder.....	SF-103
2 SFM Swing Grinder.....	SF-101

All 47W and 48W Abrasaws made after 1935.

BRYANT CHUCKING GRINDER CO., SPRINGFIELD, VT.

Last serial No. for year:	
1919.....	A-1791
1929.....	E-2835
1935.....	P-3159

BULLARD CO., BRIDGEPORT, CONN.

Last serial No. for year:	
1919.....	11000
1929.....	14800
1935.....	15300

Numbers run consecutively irrespective of type.

CALLAHAN CAN MACHINE CO., BROOKLYN, N. Y.

Last serial No. for year:	
1919.....	
1929.....	
1935.....	10043

CARLTON MACHINE TOOL CO., CINCINNATI, OHIO

	Last serial No. for year—		
	1919	1929	1935
Model—2A.....		5273	5329
Model—3A.....	10	556	588

¹ Letter preceding serial number serves to identify model number.
² Predecessor Advance Machine Works did not number machines serially.

CARROLL-JAMIESON MACHINE TOOL CO., BATAVIA, OHIO

	Last serial No. for year—		
	1919	1929	1935
13" lathes—Old model.....	429		
14" & 16"—Old model.....	2523		
13-14-15-16" Lathes, old model.....		3369	3453

CHAMBERSBURG ENGINEERING CO., CHAMBERSBURG, PA.

Last serial No. for year:	
1919.....	4119-S1
1929.....	1467-S2
1935.....	1629-S2

CHAMPION BLOWER & FORGE CO., LANCASTER, PA.

Last serial No. for year:	
1923.....	13, 624
1929.....	15, 527
1935.....	15, 952

These Serial Numbers apply to 20", 21" and 24" upright power and electric driven drill presses.

CHATTANOOGA MACHINERY CO., CHATTANOOGA, TENN.

Last serial No. for year:	
1919.....	899
1929.....	857
1935.....	962

CINCINNATI BICKFORD TOOL CO., CINCINNATI, OHIO

	Last serial No. for year—		
	1919	1929	1935
UPRIGHT DRILLS			
21" Direct Drive.....		N909	N1060
24" Direct Drive.....		2N302	2N393
20" Sliding Head.....	1919	J1545	J1605
21" Stationary Head.....	A4445	A5185	A5247
24" Stationary Head.....	B3454	B4859	B4998
28" Stationary Head.....	C1046	C1245	C1283
32" Stationary Head.....	D595	D676	D679
36" Stationary Head.....	E316	E359	
42" Stationary Head.....	H121	H134	
24" Sliding Head (Shaft Driven).....	B371	B521	B531
28" Sliding Head (Shaft Driven).....	C90	C125	C128
32" Sliding Head (Shaft Driven).....	D56	D80	D82
36" Sliding Head (Shaft Driven).....	E34	E43	
42" Sliding Head (Shaft Driven).....	H30	H38	
21" Super Service (U Type).....		3U59	
21" Super Service (Present Style).....			1L69
24" Super Service (Present Style).....			2L142
28" Super Service (Present Style).....			3L4
RADIAL DRILLS			
3' & 4' Radials (3A).....	3A3611	3A4392	
3' & 4' Radials (2A).....			2A54
3' & 4' Radials (1R).....			1R83
4' Full Universal.....	4A1278	4A1316	
4' Plain (D Type).....	4D585	4D848	4D849
5' Full Universal.....	5A840	5A869	
5' Plain (D Type).....	5D338	5D492	
6' Full Universal.....	6A549	6A579	
6' Plain (D Type).....	6D252	6D340	6D343
11" Dia. Column Super Service.....		3E236	3E325
13" Dia. Column Super Service.....		4E136	4E189
17" Dia. Column Super Service.....		5E98	5E114
19" Dia. Column Super Service.....		6E74	6E107
22" & 26" dia. Column Super Service.....	2C46	2C71	2C73

CINCINNATI ELECTRIC TOOL CO., CINCINNATI, OHIO

Last serial No. for year:

1919	29980
1929	69825
1935	77290

CINCINNATI GILBERT TOOL CO., CINCINNATI, OHIO

	Last serial No. for year—		
	1919	1929	1935
2½' & 3' Arm Simplex Radial Drills	3599		
4' & 4½' Arm Plain Radial Drills	3630		
5' Arm Plain Radial Drill	3659		
6' Plain Radial Drill (Arm)	3675		
5' Arm Full Universal Radial Drill	3493		
6' Arm Full Universal Radial Drill	3701		
3' & 4' Arm 11" column Radial Drill		4138	
4' & 5' Arm 13" column Radial Drill		4006	
5' & 6' Arm 15" column Radial Drill		3971	
6', 7' & 8' Arm 17" & 19" column Radial Drill		4129	
3' & 4' Arm 9" column Radial Drill			4208
3', 4' & 5' Arm 11" column Radial Drill			4176
4' & 5' Arm 13" column Radial Drill			4196
5' & 6' Arm 15" column Radial Drill			4226
6', 7' & 8' Arm 17" column Radial Drill			4161

CINCINNATI SHAPER CO., CINCINNATI, OHIO

Last serial No. for year:

1919	7728
1929	9995
1935	10649

CLEVELAND AUTOMATIC MACHINE CO., CLEVELAND, OHIO

Last serial No. for year:

1919	30140
1929	34872
1935	35190

CLEVELAND HOBBING MACHINE CO., CLEVELAND, OHIO

Last serial No. for year:

1929	20-160
1935	258-1253

CLEVELAND PLANER CO., CLEVELAND, OHIO

Last serial No. for year:

1919	1001
1929	1161
1935	1181

CLEVELAND PUNCH & SHEAR CO., CLEVELAND, OHIO

Last serial No. for year:

1919	4496-4504
1929	6677
1935	7277

¹ Prior to 1921 machines were not given serial numbers.

COCHRANE-BLY CO., ROCHESTER, N. Y.

	Last serial No. for year—		
	1919	1929	1935
No. 1 Filing Machine	7641	7881	7901
No. 2 Filing Machine	6860	6006	6016
Metal Sawing Machine with Circular Blade:			
No. 1	17863	17960	
No. 2-B	18883	18959	18962
No. 4-B	11409		11515
No. 4-C		11510	11515
No. 5	15389	15590	15595
No. 6	15394	15592	15594
No. 55 and No. 55-B		55-14	55-26
No. 66		66-55	66-57
No. 7 and No. 77		77-12	
No. 21 Plain		21-36	21-46
No. 21 Automatic		21-A-38	21-A-52
No. 31 Hydraulic		31-2	31-A-6
No. 14 Universal Vertical Miller-Shaper	5198	5337	5364
No. 11 Saw Blade Sharpening Machine	4394	4540	4552

COLONIAL BROACH MACHINE CO., DETROIT, MICH.

Last serial No. for year 1935—555186 and M-1000 through M-1240 inclusive.

COLUMBIA MACHINE TOOL CO., HAMILTON, OHIO

Last serial No. for year:

1919	199
1929	614
1935	634

CONE AUTOMATIC MACHINE CO., INC., WINDSOR, VT.

Last serial No. for year:

1919	¹ 50
1929	1366
1935	1820

CONSOLIDATED MACHINE TOOL CORPORATION, ROCHESTER, N. Y.

Last serial No. for year:

1929	E-4136
1935	E-4579

CONTINENTAL MACHINES, INC., MINNEAPOLIS, MINN.

Last serial No. for year 1935

23518

COVEL MANUFACTURING CO., BENTON HARBOR, MICH.

	Last serial No. for year—		
	1919	1929	1935
No. 99 Universal Cutter and Tool Grinder			151
No. 1 Universal Cutter and Tool Grinder		1004	1113
No. 78 Surface Grinder	686	372	383
Drill Grinders	13740	16100	1033
Nos. 1, 2, 3, Surface Grinders	1680	2130	
No. 5 Surface Grinder			109
No. 72 Surface Grinder			172

COX AND SONS CO., BRIDGETON, N. J.

Last serial No. for year:

1919	1519
1929	1783
1935	1801

¹ Approximate number of machines manufactured before 1919.

CURTIS AND CURTIS CO., BRIDGEPORT, CONN.

Last serial No. for year:	
1919.....	17698
1929.....	19026
1935.....	19116

DAUBER CO., OSHKOSH, WIS.

Last serial No. for year:	
1919.....	167
1929.....	236
1935.....	238

DAVENPORT MACHINE TOOL CO., ROCHESTER, N. Y.

Last serial No. for year:	
1919.....	299
1929.....	778
1935.....	958

DAVIS KEYSEATER CO., ROCHESTER, N. Y.

	Last serial No. for year—		
	1919	1929	1935
No. 1.....			
No. 2.....	860		
Old Style Fixed Table.....	988		
New Style Tilting Table.....		1462	1556
No. 3.....			7
No. 4.....			14
No. 5.....			1

DAVIS & THOMPSON CO., MILWAUKEE, WIS.

Last serial No. for year:	
1919.....	8
1929.....	315
1935.....	444

DEFIANCE MACHINE WORKS, INC., DEFIANCE, OHIO

Last serial No. for year:	
1919.....	180-19
1929.....	567-29
1935.....	716-35

A. P. DESANNO & SON, PHOENIXVILLE, PA.

Last serial No. for year—1935.....	Type C—3227
------------------------------------	-------------

DIAMOND MACHINE CO.

Supplied by American Engineering Company—Philadelphia

Serial Nos. for the year 1919—on Face Grinders:

1021	997	1090	1109	1098	1149
1030	1070	1097	1112	1133	1160
1019	1066	1083	1189	1127	1047
1058	1064	1091	1121	1095	1148
1040	1074	1102	1093	1144	1146
996	1091	1103	1094	1128	1145
1067	1081				

Serial Nos. for the year 1929—on Face Grinders:

1617	1620	1623	1705	1726	1741
1618	1621	1573	1725	1730	1464
1619	1622	1628			

Serial Nos. for the year 1935—On Face Grinders..... 1828

DREIS & KRUMP MANUFACTURING CO., CHICAGO, ILL.

	Last serial No. for year—		
	1919	1929	1935
Power Brakes.....	13850	30480	33960
Power Press Brakes.....		5181	5436
Press Brakes, lighter type.....		S-2267	L-329
Power Shears.....			S-2464

ECONOMY ENGINEERING CO., WILLOUGHBY, OHIO

Last serial No. for year:	
1919.....	1000
1929.....	5598
1935.....	35028

EASTERN MACHINE SCREW CORPORATION, NEW HAVEN, CONN.

	Threaders	Grinders
Last serial No. for year:		
1929.....	411	215
1935.....	487	241

EDLUND MACHINERY COMPANY, INC., CORTLAND, N. Y.

	1-B	2-B	3-B	4-B
Last serial No. for year:				
1919.....	546-1B	99-B		43170
1929.....	857-1B	1518B	253	43170
1935.....	99701B	1812B	3B470	43239

CHARLES F. ELMES ENGINEERING WORKS, CHICAGO, ILL.

Last serial No. for year:	
1919.....	F-793
1929.....	H-8432
1935.....	I-9161

ERIE FOUNDRY CO., ERIE, PA.

	Steam or air hammer	Board drop hammer	Presses
Last serial No. for year:			
1919.....	1720		720
1929.....	2393	5216	912
1935.....	2486	5279	952

ESPEN LUCAS MACHINE WORKS, PHILADELPHIA, PA.

Last serial No. for year:	
1919.....	S. O. 8003
1929.....	S. O. 11727
1935.....	S. O. 12972

ETNA MACHINE CO., TOLEDO, OHIO

Last serial No. for year:	
1919.....	570
1929.....	801
1935.....	862

¹ Approximate.

EX-CELL-O CORPORATION, DETROIT, MICH.

	Serial No. of last ma- chine for year 1935
No. 2112 Ex-Cell-O Precision Boring Machine.....	1074
No. 1212 Ex-Cell-O Precision Boring Machine.....	2079
No. 112 Ex-Cell-O Precision Boring Machine.....	154
No. 215 Ex-Cell-O Precision Boring Machine.....	2005
No. 13 Ex-Cell-O Precision Thread Grinder.....	116
No. 35 Ex-Cell-O Precision Thread Grinder.....	1001
No. 44 Ex-Cell-O Carbide Tool Grinder.....	1130

FARREL-BIRMINGHAM CO., ANSONIA, CONN.

Last serial No. for year:	
1929.....	801B
1935.....	845B

FEDERAL PRESS CO., ELKHART, IND.

	Last serial No. for year—				Last serial No. for year—		
	1919	1929	1935		1919	1929	1935
No. 0.....			130	No. 4.....		189	233
No. 1.....	179	179	214	No. 5.....		173	225
No. 2.....		228	305	No. 6.....			108
No. 3.....		300	384	No. 7.....			108
No. 33.....		102	111				

FELLOWS GEAR SHAPER CO., SPRINGFIELD, VT.

Last serial No. for year:	
1919.....	7272
1929.....	14414
1935.....	15868

FERRACUTE MACHINE CO., BRIDGETON, N. J.

Last serial No. for year:	
1919.....	12705
1929.....	18905
1935.....	19500

FISCHER MACHINE CO., PHILADELPHIA, PA.

	Fischer Oil Groovers	
	No. 1	No. 2
Last serial No. for year:		
1919.....	389	13
1929.....	652	34
1935.....	683	40

FITCHBURG GRINDING MACHINE CORPORATION, FITCHBURG, MASS.

	Universal and Spline		Plain Cyl.
Last serial No. for year:			
1919.....	1390	623	
1929.....	1762	839	
1935.....	1835	855	

FOOTE-BURT CO., CLEVELAND, OHIO

Last serial No. for year:	
1919.....	398
1929.....	1012
1935.....	1104
Serial Nos. on machines indicate year manufactured: i. e. 12938-35 the last two numbers "35" designate the year 1935.	

FOSDICK MACHINE TOOL CO., CINCINNATI, OHIO

Last serial No. for year:	
1919.....	4715
1929.....	6567
1935.....	6956

FRENCH OIL MILL MACHINERY CO., PIQUA, OHIO

Last serial No. for year:	
1919.....	3995
1929.....	6631
1935.....	7882

FREW MACHINERY CO., PHILADELPHIA, PA.

Last serial No. for year:	
1929.....	262
1935.....	303

GALLMEYER AND LIVINGSTON CO., GRAND RAPIDS, MICH.

	Last serial No. for year—		
	1919	1929	1935
No. 0 Hand Feed Surface Grinder.....			021
No. 10.....			SG1097
No. 15 Hand Feed Surface Grinder.....			S15033
No. 18 Hand Feed Surface Grinder.....			S18016
No. 25 Hydraulic Feed Surface Grinder.....			S25073
No. 30.....			S3054
No. 35 Hydraulic Feed Surface Grinder.....			S35074
No. 3-V Hydraulic Feed Surface Grinder.....			VS398
No. 40.....			S4043
No. 45 Hydraulic Feed Surface Grinder.....			S45047
No. 50 Hydraulic Feed Surface Grinder.....			S5053
No. 55 Hydraulic Feed Surface Grinder.....			S55067
No. 65 Hydraulic Feed Surface Grinder.....			S65017
No. 1½ Universal Cutter & Tool Grinder.....		U1569	U1604
No. 3 Universal Cutter & Tool Grinder.....		U3120	U3145
No. 4 Universal Cutter & Tool Grinder.....		U4053	U4067
No. 5 Universal Cutter & Tool Grinder.....		U5020	U5034

GARDNER MACHINE CO., BELOIT, WIS.

	Last serial No. for year—		
	1919	1929	1935
No. 1 Disc Grinder.....	1431	1637	1654
No. 2 Disc Grinder.....	2624	21101	21133
No. 3 Disc Grinder.....			30103
No. 4 Disc Grinder.....	4003	4841	4874
No. 6 Disc Grinder.....	6291	6508	6558
No. 7 & No. 7½ Disc Grinders.....	7202	7462	7499
No. 8 Disc Grinder.....	818	825	826
No. 14 Disc Grinder.....	14500	14712	14760
No. 24 Disc Grinder.....	24267	24482	24526
No. 79 Disc Grinder.....		79101H	7917H
No. 86 Disc Grinder.....		8678	86107
No. 88 Disc Grinder.....		8814	8826
No. 215 Disc Grinder.....			21501
No. 218 Disc Grinder.....			21801
No. 220 Disc Grinder.....			22002
No. 0 Polishing Lathe.....	034P	045P	045P
No. 1 Polishing Lathe.....	1350P	1619P	1625P
No. 2 Polishing Lathe.....	2334P	2767P	2787P
No. 3 Polishing Lathe.....	3928P	32914P	32950P
No. 4 Polishing Lathe.....	432P	490P	490P
No. 3-D Polishing Lathe.....		3D526	3D570
No. 123 Disc Grinder.....			12302

GENERAL ENGINEERING & MANUFACTURING CO., ST. LOUIS, MO

Last serial No. for year:

1919	3021
1929	3271
1935	3280

GENERAL MACHINERY CORPORATION, HAMILTON, OHIO

Last serial No. for year:

1919	18950
1929	20995
1935	21275

GEOMETRIC TOOL CO., NEW HAVEN, CONN.

	Last serial No. for year—		
	1919	1929	1935
Threading Machines	834	1537	1573
Geometric Chaser Grinders	378	544	550

GIDDINGS & LEWIS MACHINE TOOL CO., FOND DU LAC, WIS.

No. 0	Serial No. 4101-4559, incl. Last Serial No. issued 1919.
No. 32	Serial No. 4560-4790, incl. Last Serial No. issued 1929.
No. 45	Serial No. 8000-8224, incl. Last Serial No. issued 1935.
No. 300	Serial No. P-1000-P-1010, incl. Last Serial No. issued 1929.
No. UR3	Serial No. 300-318, incl. Last Serial No. issued 1935.
No. 25-T	Serial No. 1-41, incl. Last Serial No. issued 1929.
No. 330-T	Serial No. 4801 & up First Serial No. issued 1930.
No. 350-T	Serial No. 8650 & up First Serial No. issued 1940.
No. 700-T	Serial No. 9003 & up First Serial No. issued 1931.
No. 50 & 50-T	Serial No. 8501 & up First Serial No. issued 1928.

GISHOLT MACHINE CO., MADISON, WIS.

	Last serial No. for year—				Last serial No. for year—		
	1919	1929	1935		1919	1929	1935
Type:				No. 2		701-707	
"G"	115-144	145		No. 3		751-756	757
"H"	200-224						765
	300-349			No. 4		801-820	821-823
"I"	501-504	505					761-762
	225-249						766-767
"J"	350-411	412		No. 5			825-826
	108-113			No. 6		851-861	862
"1L"	250-271	272-274		Type:			
"2L"		601-609	610-612	"4L"		1131	962-963
"3L"		651-660	661-665	"5L"		951-961	962
		1104		"3D"		954-955	
		901-910				1055-1058	
		912-914		No. 12		18300-18318	519-529
"3AL"		916-918					530-532
		906-911					3001
		913-915	919-922				
"K"		917					
	114						
	275-296	297					

GLEASON WORKS, ROCHESTER, N. Y.

Last serial No. for year:

1919	5097
1929	11430
1935	12761

GOOLEY & EDLUND

Last serial No. for year:

1919	3278
1929 (Type A or B)	3595

NOTE.—During 1926—5 machines numbered 4000 thru 4004 shipped.

GEORGE GORTON MACHINE CO., RACINE, WIS.

	Last serial No. for year—				Last serial No. for year—		
	1919	1929	1935		1919	1929	1935
Engravers:				3-Q			12442
1-G	8322	9946		3-R			11904
3-G		11415	11446	3-X			11021
1-D	8276	10594		3-Z		11013	11274
3-D		11509	11527	3-B			12603
1-A	8998	9732		3-L			13100
3-A		11608	11619	Millers:			
1-J	6107	10134	10139	8-D Hand Feed Ver-		11320	12732
3-J		11702	11732	tical			
2-F			12909	8-D Power Feed Ver-			12107
3-U			13015	tical			12220
1-H	9311	10805		8-D Universal			12829
3-H		10904	10905	8½-D Vertical			12313
1-S		10423	10426	9-J Vertical			
3-S			11812				
3-E			12528				

GOSS & DeLEEUEW MACHINE CO., NEW BRITAIN, CONN.

Last serial No. for year ending:

1929	382
1935	508

GOULD & EBERHARDT, NEWARK, N. J.

	Last serial No. for year—		
	1919	1929	1935
Shapers	13080	702A1	1214A1
Gear Cutters	3408	6-7A1	1066A1

G. A. GRAY CO., CINCINNATI, OHIO

Last serial No. for year:

1919	6139
1929	6749
1935	6819

GREENLEE BROS. & CO., ROCKFORD, ILL.

	Last serial No. for year—		
	1919	1929	1935
Automatic Screw Machines		A-108	A-152
Special Multiple Spindle Drilling & Tapping Equipment		1510	1980

GROB BROS., GRAFTON, WIS.

	Last serial No. for year—		
	1919	1929	1935
Type B-3			188
Type A-3			275
Type S			13

HALL PLANETARY CO., PHILADELPHIA, PA.

	Last serial No. for year—		
	1919	1929	1935
"A".....	131	555	591
"B".....		6	509
"C".....	136		
"D".....		553	577

HAMMOND MACHINERY BUILDERS, KALAMAZOO, MICH.

	Last serial No. for year—		
	1919	1929	1935
Victory Pol. Lathe.....		556-B	651
Rite Speed Pol. Lathe.....		1704	2416
Heavy Duty Pol. Lathe.....		752	786
Straight Line & Rotary Automatic Burring & Polishing Machine.....			688
Grinders.....		5044	5455

HANCHETT MANUFACTURING CO., BIG RAPIDS, MICH.

	Last serial No. for year—				Last serial No. for year—		
	1919	1929	1935		1919	1929	1935
Rotary Grinders:							
No. 72.....			72C-9				
Badger Disc Grinders:							
No. 2.....	204	241	242	Badger Disc Grinders—Continued.			
No. 4.....	426	466	474	No. 230.....			3002
No. 6.....	626	680	693	Vertical Spindle Surface Grinders:			
No. 7.....	704	726	727	No. 400.....			480-1
No. 8.....	818	861	870	Face Grinders—Table Type:			
No. 9.....		1001	1002	No. 900.....			900-10
No. 206.....		1001	1903	UK Travelling Type Grinders:			
No. 220.....	903	991	9904	No. 500.....		231	234
No. 221.....		1542	1576	No. 600.....		605	
No. 224.....		1711	1714				
No. 228.....							

HANNA ENGINEERING WORKS, CHICAGO, ILL.

Last serial No. for year:	
1919.....	2224
1929.....	4490
1935.....	5016

HANNIFIN MANUFACTURING CO., CHICAGO, ILL.

Last serial No. for year:	
1919.....	8310
1929.....	A-3463
1935.....	A-18022

HANSON-WHITNEY MACHINE CO., HARTFORD, CONN.

	Last serial No. for year—	
	1929	1935
Vertical Die Shaping Machine.....	93	108
Rapid Precision Centering Machine.....	59	69
7½" x 11½" Thread Milling Machine.....	245	317

HARDINGE BROTHERS, INC., ELMIRA, N. Y.

Last serial No. for year:	
1929.....	10200 (approx.)
1935.....	13400 (approx.)

R. G. HASKINS CO., CHICAGO, ILL.

Type of machine	Serial No.	Year
"M" Tapping Equipment.....	C-395	Dec. 1931
"M" Tapping Equipment.....	C-847	Dec. 1932
"TP" Tapping Equipment.....	C-1402	Dec. 1933
"2-A" Tapping Equipment.....	T-345	Dec. 1934
"2HA" Tapping Equipment.....	T-1295	Dec. 1935

HENDEY MACHINE CO., TORRINGTON, CONN.

	Last serial No. for year—		
	1919	1929	1935
Friction Shapers.....	6575		1455
20" Crank Shaper.....	405	1387	1596
16/20" Crank Shaper.....		1293	1496
24/28" Crank Shaper.....		1249	1286
32" Crank Shaper.....		1285	1615
12" Crank Shaper.....			28835
Lathes.....	22651	27960	

HENDLEY & WHITTEMORE CO., BELOIT, WIS.

Last serial No. for year:	
1919.....	3184
1929.....	6607
1935.....	7126

HENRY & WRIGHT MANUFACTURING CO., HARTFORD, CONN.

	Last serial No. for year—		
	1919	1929	1935
All Drilling Machines Except Classes O and R.....	25519	29152	29240
Class O Drilling Machines (Bench Type).....	206	308	312
Class R Drilling Machines (Sensitive Floor Type).....		461	501
Dieing Machines & conventional type welded Steel Presses.....	37	643	35847

HOEFER MANUFACTURING CO., FREEPORT, ILL.

Last serial No. for year:	
1919.....	3984
1929.....	18902
1935.....	20750

HUNTER SAW & MACHINE CO., PITTSBURGH, PA.

	Last serial No. for year—		
	1919	1929	1935
No. 1-A.....		258	285
No. 6.....		131	134
No. 0.....			112
No. 2-B.....			

ILLINOIS MACHINE & MANUFACTURING CO., LaSALLE, ILL.

Last Serial No. for Year:

1929..... 11-36 and 10-A-45
 1935..... 11-43 and 10-A-52

INGERSOLL MILLING MACHINE CO., ROCKFORD, ILL.

Last serial No. for year:

1919..... 2802
 1929..... 4514
 1935..... 14980

INTERNATIONAL MACHINE TOOL CORPORATION, ELKHART, IND.

	Last serial No. for year—				Last serial No. for year—		
	1919	1929	1935		1919	1929	1935
No. 0 machine.....	0977	01110		No. 6 machine.....	6287		
No. 1 machine.....	10541	10802	10817	No. 7 machine.....	7046	7216	7225
No. 2 machine.....	22059	23007		No. 1-B machine.....	1B-354	1B-685	1B-736
No. 3 machine.....	31905	32818	32858	No. 2-B machine.....	2B-105	2B-408	2B-473
No. 4 machine.....	41265			No. 3-B machine.....	3B-102	3B-190	3B-216
No. 5 machine.....	5435	5687					

FOSTERMATICS

	Last machine built in 1929	Last machine built in 1935
1-F.....	#1F-18	#1F-35
2-F.....	#2F-33	#2F-57
3-F.....	#3F-31	#3F-67
4-F.....	#4F-10	#4F-10

INTERNATIONAL MACHINE TOOL CORPORATION, INDIANAPOLIS, IND.

	1919	1929	1935
Type A.....	A-795	A-1000	
Type C.....	C-725	C-7512	
Type H.....			1H-6-1063

JARECKI MANUFACTURING CO., ERIE, PA.

	Last serial No. for year—		
	1919	1929	1935
No. 66 machine.....			
No. 44 machine.....	193	359	244

JONES MACHINE TOOL WORKS, INC., PHILADELPHIA, PA.

The following machines were built in 1929:

- 1-4" horizontal boring mill.
- 1-5" horizontal boring mill.
- 2-6" vertical shapers.
- 2-12" slotters.
- 1-20" light duty slotter.
- 1-25" light duty slotter.

JONES & LAMSON MACHINE CO., SPRINGFIELD, VT.

	Last serial No. for year—		
	1919	1929	1935
Thread Grinding Machine.....			100104
Turret Lathes:			
2 1/2 x 24".....	11085	40539	40545
2 1/2 x 24".....		41011	41117
3 x 36".....	16475	30408	30421
2 1/2 x 32".....			31052
Double spindle.....	20738	50180	50197
Universal.....			60141
Fay Automatic Lathes:			
8".....			75198
12".....			80259
14".....	2070	6965	
20".....			80241
24".....		6998	7374

KANE & ROACH, INC., SYRACUSE, N. Y.

Last serial No. for year:

1919..... 198757
 1929..... 201707
 1935..... 202388

KEARNEY & TRECKER CORPORATION, MILWAUKEE, WIS.

	Last serial No. for year—				Last serial No. for year—		
	1919	1929	1935		1919	1929	1935
No. 1 F.....	610	1522	1998	No. 4 K.....			1977
No. 1 1/2 F.....	611	1530	1962	No. 1200 Series Bedtype.....			2008
No. 2 F.....	606	1542	2031	No. 1800 Series Bedtype.....			1933
No. 3 F.....	605	1629	1981	No. 1400 Mil-Waukee-Mills.....		1482	2040
No. 4 F.....	578	1521	1713	No. 2200 Mil-Waukee-Mills.....		1517	1931
No. 1 K.....			1785	Face Mill Grinder.....			2047
No. 2 K.....			1964				
No. 3 K.....			1977				

KEMPSMITH MACHINE CO., MILWAUKEE, WIS.

Last serial No. for year:

1919..... 9050
 1929..... 10450
 1935..... 10789

KENT MACHINE CO., CUYAHOGA FALLS, OHIO

	Last serial No. for year—				Last serial No. for year—		
	1919	1929	1935		1919	1929	1935
6-d Driller.....		Z-98	Z-108	117 Slotter.....		N-6	N-12
2 1/4 Bar Pointer.....		W-45	W-52	No. 3 Slotter.....		S-6	
1 1/2 Stud Threader.....		H-26	HD-36	Nut Countersinker.....			200-52
1" Stud Threader.....		K-13		Nut Countersinker.....			201-26
Bolt Threader.....		V-4		2 Spindle Pointer.....			237-107

KENT-OWENS MACHINE CO., TOLEDO, OHIO

	Last serial No. for year—		
	1919	1929	1935
No. 1 Hand Mill Machine.....		973	1112
No. 2 and 3 Mill Machine.....		357	541

KING MACHINE TOOL CO., CINCINNATI, OHIO

Last serial No. for year:	
1919.....	887
1929.....	1252
1935.....	1347

KINGSBURY MACHINE TOOL CORPORATION, KEENE, N. H.

Last serial No. for year:	
1929.....	B-1289
1935.....	B-1951

KLING BROS. ENGINEERING WORKS, CHICAGO, ILL.

Last serial No. for year:	
1919.....	615
1929.....	1550
1935.....	1823

W. B. KNIGHT MACHINERY CO., ST. LOUIS, MO.

	Last serial No. for year—		
	1919	1929	1935
No. 1 Knight Miller.....	800	880	898
No. 1½ Knight Miller (Hand Feed).....	326	373	
No. 1½ Knight Miller (Power Feed).....	382-A	1467-A	1476-A
No. 2 Knight Miller.....	243	419	454
No. 3 Knight Miller.....	60		
No. 3B Knight Miller.....		E-116	E-127
No. 4 Knight Miller.....		F-536	F-556

L & J PRESS CORPORATION, ELKHART, IND.

	Last serial No. for year—				Last serial No. for year—		
	1919	1929	1935		1919	1929	1935
No. 0 Bench or Stand.....		618	690	No. 4 geared.....	217	722	801
No. 1 or Special.....	154	563	638	No. 4½ geared.....			108
No. 2 or Special.....	196	917	1008	No. 5 geared or special.....	155	457	492
No. 3 or Special.....	556	1432	1539	No. 4 comb. geared.....	217	722	801
No. 4.....	217	722	801	No. 4½ comb. geared.....			108
No. 4½.....			108	No. 5 comb. geared or special.....	155	457	492
No. 5.....	155	457	492				

WILLIAM LAIDLAW, INC., BELMONT, N. Y.

Last serial No. for year:	
1919.....	505
1929.....	934
1935.....	1083

LANDIS MACHINERY CO., WAYNESBORO, PA.

	Last Serial No. for year 1919		
	1919	1929	1935
1" Single Bolt Cutter.....	18975		
1½" Double Bolt Cutter.....	19258 and 19259		
1" Single Bolt Cutter.....	19236		
1" Double Bolt Cutter.....	19200 and 19201		
1" Triple Bolt Cutter.....	18905—18906—18907		
1½" Single Bolt Cutter.....	19341		
1½" Double Bolt Cutter.....	19316 and 19317		
1½" Triple Bolt Cutter.....	18392—18393—18394		
2" Single Bolt Cutter.....	19067		
2" Double Bolt Cutter.....	19186 and 19187		
2" Triple Bolt Cutter.....	18553—18554—18555		
2½" Single Bolt Cutter.....	19169		
2½" Double Bolt Cutter.....	19263 and 19264		
3" Single Bolt Cutter.....	18690		
4" Single Bolt Cutter.....	18977		
4" Double Bolt Cutter.....	18822 and 15723		
1½" Single Bolt Cutter.....	19332		
1½" Double Bolt Cutter.....	19119 and 19120		
1½" Single Pipe and Nipple.....	18817		
1½" Double Pipe and Nipple.....	18856 and 18857		
1½" Single Pipe and Nipple.....	19135		
1½" Double Pipe and Nipple.....	18856 and 18857		
1" Double Pipe and Nipple.....	19171 and 19172		
2" Single Pipe and Nipple.....	19145		
2" Double Pipe and Nipple.....	19322 and 19333		
4" Single Pipe and Nipple.....	18699		
4" Double Pipe and Nipple.....	18899 and 18900		
2" Pipe Threading & Cutting Machine.....	19354		
4" Pipe Threading & Cutting Machine.....	19397 and 19398		
6" Pipe Threading & Cutting Machine.....	19146		
8" Pipe Threading & Cutting Machine.....	19273 and 19274		

	Last serial No. for year 1929		
	1929	1935	1935
1½" Single Bolt Cutter.....	1/8" S #88-1 37256		
1½" Double Bolt Cutter.....	1/8" D #142-2 37679 and 37680		
1½" Single Bolt Cutter.....	1/8" S #138-2X 9R614 and 9R615		
1½" Single Bolt Cutter.....	1/8" S #19-2 6R1198		
1½" Double Bolt Cutter.....	1/8" D #88-2 6R1306 and 6R1307		
1" Single Bolt Cutter.....	36501 and 8R552		
1" Double Bolt Cutter.....	36523, 36524, 8R556 and 8R557		
1" Triple Bolt Cutter.....	12R148—12R149—12R150		
1½" Single Bolt Cutter.....	38195 and 12R229		
1½" Double Bolt Cutter.....	38255, 38256, 12R226 & 12R227		
1½" Triple Bolt Cutter.....	37739—37740—37741		
2" Single Bolt Cutter.....	38345 and 16R45		
2" Double Bolt Cutter.....	38257, 38258, 16R37 & 16R38		
2" Triple Bolt Cutter.....	37908—37909—37910—16R30—16R31—16R32		
2½" Single Bolt Cutter.....	37967 & 20R10 & 37860		
2½" Double Bolt Cutter.....	37295, 37296, 20R03, 20R04		
3" Single Bolt Cutter.....	38180		
4" Single Bolt Cutter.....	37179		
4" Double Bolt Cutter.....	36378 & 36379		
1" Triple Bolt Factory Threader.....	1" T16X 8R528, 8R529, 8R530		
1½" Triple Bolt Factory Threader.....	1½" T-5 12R190—12R191, 12R192		
¾" Automatic Forming & Threading.....	Aft. 6—#99		
1" Single Pipe Nipple.....	1" S #90-2 4T55		
1½" Single Pipe & Nipple.....	38343 (B. C. Hd. Burton)		
1½" Double Pipe & Nipple.....	1½" D 142-2 37679—37680		
1½" Double Pipe & Nipple.....	1½" D 144-2 4T59 & 4T60		
1½" Single Pipe & Nipple.....	37858 & 10T61		
1½" Double Pipe & Nipple.....	38212, 38213, 10T56, 10T57		
2" Single Pipe & Nipple.....	38262 & 16T29		
2" Double Pipe & Nipple.....	38196, 38197, 16T26, 16T25		
4" Single Pipe & Nipple.....	38202		
4" Double Pipe & Nipple.....	38278 & 38279		

LANDIS MACHINERY CO., WAYNESBORO, PA.—Continued

Last serial No. for year 1929	
2" Pipe Threading & Cutting	Type 2-#161-2 R4-38356-C
3" Pipe Threading & Cutting	38247
4" Pipe Threading & Cutting	Type 4-#120-3 38359 & 38360
6" Pipe Threading & Cutting	Type 6-#292-4 38329 & 38330
8" Pipe Threading & Cutting	Type 8-#154-4 38310 & 38026
12" Pipe Threading & Cutting	Type 12-#163-5 38373 & 38374
16" Pipe Threading & Cutting	Type 16-#22 816-3
18" Pipe Threading & Cutting	Type 18-#17-2 818-09
20" Pipe Threading & Cutting	Type 20-#3-2 820-02
#2 Chaser Grinder	Model 2 No. 9-2
Last serial No. for year 1935	
3/8" Double Bolt Cutter	3/8" D No. 176-2 3R252/3
1/2" Single Bolt Cutter	40087
1/2" Double Bolt Cutter	1/2" D No. 168-2 39948/9
1/2" Double Bolt Cutter	1/2" D No. 172-2 4T123/4
3/4" Single Bolt Cutter	3/4" S No. 170-2 9R821-1
3/4" Double Bolt Cutter	3/4" D No. 175-2 9R843/4
1" Single Bolt Cutter	1" S No. 34-2 6R 1612
1" Double Bolt Cutter	1" D No. 115-2 6R1609/10
1" Single Bolt Cutter	39903
1" Double Bolt Cutter	8R845
1" Double Bolt Cutter	40214/15
1 1/2" Single Bolt Cutter	8R897/8
1 1/2" Single Bolt Cutter	12R574
1 1/2" Double Bolt Cutter	39926
1 1/2" Double Bolt Cutter	38895/6
1 1/2" Double Bolt Cutter	12R381/2
2" Single Bolt Cutter	40249
2" Single Bolt Cutter	16R196
2" Double Bolt Cutter	38926 & 28927
2" Double Bolt Cutter	16R200/1
2 1/2" Single Bolt Cutter	39850
2 1/2" Single Bolt Cutter	20R36
2 1/2" Double Bolt Cutter	38693/4
2 1/2" Double Bolt Cutter	20R25/6
3" Single Bolt Cutter	39875
4" Single Bolt Cutter	39925
4" Double Bolt Cutter No. M/C's sold 1929 to 1935	39223/4/5 Hds. Burton 2/19/31
1" Triple Bolt Cutter	Nothing from 36498/500 6/29/28 & 40494/6 8/2/36
1" Triple Bolt Factory Threader	Nothing 1929 to 1936
1 1/2" Triple Bolt Factory Threader	1" T17 8R542/3/4
1 1/2" Triple Bolt Factory Threader	38401/2/3
1 1/2" Triple Bolt Factory Threader	1 1/2" T No. 14-1 12R433/4/5
1 1/2" Triple Bolt Cutter	Nothing from 1929 to 1936
2" Triple Bolt Cutter	38860/1/2
3/8" Single Bolt Cutter	3/8" S #35-2 7V93
3/8" Double Bolt Cutter	3/8" DX #110-2 7V65/6
1" Single LANDMACO Bolt Cutter	1L22 8R896
1" Double LANDMACO Bolt Cutter	1L23 8R899/900
1 1/2" Single LANDMACO Bolt Cutter	1-1/2L57 12R380
1 1/2" Double LANDMACO Bolt Cutter	1 1/2L59 12R602/3
2" Single LANDMACO Bolt Cutter	2L10 16R203
2" Double LANDMACO Bolt Cutter	2L03X 16R174/5
2 1/2" Single LANDMACO Bolt Cutter	2 1/2L02 20R41
1/2" Single Pipe & Nipple	1/2" S 192-2 39943
1/2" Single Pipe & Nipple	1/2" S 1166-2 4R108
1/2" Double Pipe & Nipple	39605/6 1/2" Double Bolt Cutter
1/4" Double Pipe & Nipple	Drury 12/18/33
1 1/4" Single Pipe & Nipple	1 1/4" D 171 4T117/18
1 1/4" Double Pipe & Nipple	10R74
2" Single Pipe & Nipple	10T156/7
2" Single Pipe & Nipple	39610-2"
2" Single Pipe & Nipple	16R143-16T118

LANDIS MACHINERY CO., WAYNESBORO, PA.—Continued

Last serial No. for year 1935	
2" Double Pipe & Nipple	39229 and 39230
2" Double Pipe & Nipple	16T127/8-16R198/9
3" Single Pipe & Nipple	Size 3" P. M. No. 7 39350
4" Single Pipe & Nipple	39337
4" Double Pipe & Nipple	40255/6
1 1/4" Single LANDMACO Pipe & Nipple	1 1/4" L09 10T141
1 1/4" Double LANDMACO Pipe & Nipple	1 1/4" L03-0 10T81/2
2" Single LANDMACO Pipe & Nipple	2" L08 16T119
2" Double LANDMACO Pipe & Nipple	2L11 16T129/30
2" Little Landis Pipe Threading & Cutting	200#61 3/4"-79 2"-77
2" Pipe Threading & Cutting	Type 2 #244-2 40207
4" Pipe Threading & Cutting	Type 4 #158-3 40183-40105
6" Pipe Threading & Cutting	Type 6 #365-4 40089
8" Pipe Threading & Cutting	Type 6 #388-4 39834-39835
12" Pipe Threading & Cutting	Type 6 #390-4X 40027-40029
16" Pipe Threading & Cutting	Type 8 #223-4 40198-39336
18" Pipe Threading & Cutting	Type 12 #195-5 40106
20" Pipe Threading & Cutting	Type 16 #25 816-35-1X
8 3/4" Pipe Threading & Cutting	Type 18 #18-2 812-12
13 3/4" Pipe Threading & Cutting	Type 20 #4-2 820-03
3/4" Automatic Forming & Threading	8" Rec. 29-1 Type 8LRX 236-5
1" Automatic Forming & Threading	13 3/4" 12-1 Type 13 3/4" LRX 12/1
	Aft. 6 No. R171-4
	Aft. 8 No. R170-4

LANDIS TOOL CO., WAYNESBORO, PA.

Last serial No. for year:	
1919	13500
1929	160000
1935	170000

LAPOINTE MACHINE TOOL CO., HUDSON, MASS.

Last serial No. for year:	
1919	1966
1929	29038
1935	35058

R. K. LEBLOND MACHINE TOOL CO., CINCINNATI, OHIO

	Last serial No. for year—		
	1919	1929	1935
12" Heavy Duty Engine Lathe			NB-153
15" Heavy Duty Engine Lathe			NC-279
16" Heavy Duty Engine Lathe	D-4533		
17" Heavy Duty Engine Lathe	ND-6239		ND-7589
18" Heavy Duty Engine Lathe	E-2798		NE-4261
19" Heavy Duty Engine Lathe	NE-3751	NE-4220	
20" Heavy Duty Engine Lathe	F-1840		NF-4439
21" Heavy Duty Engine Lathe	NF-4048	NF-4422	NG-244
22" Heavy Duty Engine Lathe		NG-216	
23" Heavy Duty Engine Lathe			NH-1665
24" Heavy Duty Engine Lathe	H-1168		
25" Heavy Duty Engine Lathe	NH-1410	NH-1643	
27" Heavy Duty Engine Lathe		NI-488	NI-496
30" Heavy Duty Engine Lathe	NJ-265	NJ-307	NJ-312
33" Heavy Duty Engine Lathe			NK-287
36" Heavy Duty Engine Lathe	NK-200	NK-276	
14" Tool Room Lathe			NO-278
10" Regal Lathe			A-287
12" Regal Lathe			B-2211
14" Regal Lathe			C-5832
16" Regal Lathe			D-4857
18" Regal Lathe			E-2920
#8 Automatic Crankshaft			6AC-18
28" Universal Crankshaft	6MC-3	6MC-326	NF-4437
#6 Multi-Cut Lathe	9MC-73	9MC-589	6MC-398
#9 Multi-Cut Lathe			9MC-691

R. K. LEBLOND MACHINE TOOL CO., CINCINNATI, OHIO—Continued

	Last serial No. for year		
	1919	1929	1935
#12 Multi-Cut Lathe		12MC-200	12MC-336
#1 Universal Cutter Grinder		3636	
#12 Automatic Lathe	2745	12AL-63	12ML-91
#16 Automatic Lathe		16AL-146	16AL-161
11" Rapid Production Lathe		NA-791	NA-1016
14" Rapid Production Lathe		C-3624	
15" Rapid Production Lathe	C-5182	ND-265	
16" Rapid Production Lathe		D-4732	5D-95
17" Rapid Production Lathe		ND-7423	
19" Rapid Production Lathe			NE-4280
#0 -B Plain Cone Miller	597		
#1 Plain Cone Miller		631	
#1-B Plain Cone Miller	542		
#2 Plain Cone Miller		1697	
#2½ Plain Cone Miller	1393		
#3-H Plain Cone Miller	1395		
#4 Plain Cone Miller	1361		
#1-B Universal Cone Miller	367		
#2 Universal Cone Miller		638	
#4-H Universal Cone Miller	1435		
#4-GH Pl. Single Pulley Gear Miller	239		
#2-G Univ. Sing. Pull. Gear Miller	243		
#3-GH Univ. Sing. Pull. Gear Miller		1715	
	1394	1571	

LEES-BRADNER CO., CLEVELAND, OHIO

	Last serial No. for year—		
	1919	1929	1935
Standard Thread Miller			
Special Thread Miller	336	491	541
5-A Hobbing Machine	874	920	928
5-AC Hobbing Machine	509		
No. 1 Hobbing Machine		953	982
No. 10-B Gear Grinder		166	194
2-HS Gear Grinder		341	345
			115

LEHMANN MACHINE CO., ST. LOUIS, MO.

	First No.	
	1	5000
Last serial No. for year:		
1919		
1929	662	5129
1935	1251	5154
	1296	

LELAND-GIFFORD CO., WORCESTER, MASS.

	Last serial No. for year—		
	1919	1929	1935
#1 Machine	SL-9550	SL-11290	SL-11425
#2 Machine	25200	B-29800	B-30000
#3 Machine		3-24-200	3-24-310

LIBERT MACHINE CO., GREEN BAY, WIS.

	Last Serial No. for year 1935	
	1919	1935
Model 1036		124
Model 1344		057
Model 1354		065
Model 1336		066
Model 1430		160

LIBERTY PLANER & MANUFACTURING CO., HAMILTON, OHIO

Last serial No. for year:	
1919	88
1929	449
1935	471

LINLEY BROTHERS CO., BRIDGEPORT, CONN.

Last serial No. for year:	
1919	10-D 168
1929	10-A 315

W. C. LIPE INC., SYRACUSE, N. Y.

	Last serial No. for year—		
	1919	1929	1935
9" Production Lathe, 20" bed	1238-L	1576-H	1-1502-B
9" Production Lathe, 12" bed	1694-H	2298-H	2347-H
Carbo Lathe			297-C
Carbo Hydraulic			501-CH

LITTLE GIANT, INC., MANKATO, MINN.

	Last serial No. for year—		
	1919	1929	1935
25# Hammer	2720	4496	4723
50# Hammer	3990	5467	5656
100# Hammer	515	871	899
250# Hammer	191	332	341
500# Hammer	513	526	527

LOBDELL CAR WHEEL CO., WILMINGTON, DEL.

	Last serial No. for year—				Last serial No. for year—		
	1919	1929	1935		1919	1929	1935
Nazel Hammers:				Nazel Hammers—Con.			
1-B	608	1234	1238	6-L	274	875	875
2-B	930	1353	1365	10-S			1501
3-B	902	1333	1372	13-S			1502
4-B	687	1305	1315	Dill Slotters:			
5-B	708	1145	1149	10"	284	284	284
6-B	731	1375	1376	12"	288	498	498
4-N	750	765	765	15"	367	517	517
5-N	520	791	792	18"	374	549	549
6-N	801	809	809	20"	227	565	565
4-L	513	828	834	24"	388	596	596
5-L	505	850	851				

LODGE & SHIPLEY MACHINE TOOL CO., CINCINNATI, OHIO

Last serial No. for year:	
1919	25800
1929	30000
1935	30400

LUCAS MACHINE TOOL CO., CLEVELAND, OHIO

	Last serial No. for year—		
	1919	1929	1935
No. 31 Model with 3" dia. spindle	31-20-24		
No. 32 Model with 3¾" dia. spindle	32-14-24		
No. 33 Model with 4½" dia. spindle	33-8-12		
No. 41 Model with 3" dia. spindle		41-2-12	41-6-7
No. 42 Model with 4" dia. spindle		42-6-7	42-11-1
No. 43 Model with 5" dia. spindle		43-5-12	43-7-12

E. J. MANVILLE MACHINE CO., WATERBURY, CONN.

Last serial No. for year:	
1919	3957
1929	4436
1935	4575

MARBURG BROS., INC., NEW YORK

Last serial No. for year 1935	109
-------------------------------	-----

MARSHALLTOWN MANUFACTURING CO., MARSHALLTOWN, IOWA

Last serial No. for year:	
1919	1130
1929	3265
1935	3536

MATTISON MACHINE WORKS, ROCKFORD, ILL.

Last serial No. for year 1935	11262
-------------------------------	-------

METALWOOD MANUFACTURING CO., DETROIT, MICH.

Last serial No. for year:	
1919	1269
1929	1624
1935	1687

MICHIGAN TOOL CO., DETROIT, MICH.

No. 854 Gear Finishing Machine (Rock Type)	Last serial No. for year 1935	241
No. 858 Internal Gear Finishing Machine		203
No. 991 Gear Lapping Machine		197
No. 1124 Universal Involute Checking Machine		122
No. 1224-A Universal Involute Checking Machine		123
No. 1125 Universal Involute Checking Machine		132
No. 1126 Universal Involute Checking Machine		139
No. 1128 Gear Finishing Machine (Rock Type)		140
No. 1204 Spiral Gear Lead Checking Machine		149

MINSTER MACHINE CO., MINSTER, OHIO

Last serial No. for year:	
1929	1039
1935	1579

MITTS & MERRIL, SAGINAW, MICH.

Last serial No. for year:	
1919	92253
1929	A-112277
1935	B-1217½

MOLINE TOOL CO., MOLINE, ILL.

Last serial No. for year:	
1919	1931
1929	2912
1935	3058

MONARCH MACHINE TOOL CO., SIDNEY, OHIO

Series:	Last serial No. for year—			Series—Con.:	Last serial No. for year—		
	1919	1929	1935		1919	1929	1935
E	E-124 #12			FB			FB-103 #9
A	A-617 #1		FA-105 #12	H			H-104 #9
FA			FA-105 #12	L			L-103 #21
B	B-207 #12			D	D-105 #3		D-121 #6

Serial No. A-2163 to D-3031—1929.
Serial No. N-4208 to CU-4574—1935.

MOORE SPECIAL TOOL CO., BRIDGEPORT, CONN.

Last serial No. for year 1935 (Jig Borer)	10
---	----

MORGAN ENGINEERING CO., ALLIANCE, OHIO

Last serial No. for year:	
1919	1339
1929	1388
1935	1408

MORRIS MACHINE TOOL CO., CINCINNATI, OHIO

	Last serial No. for year—		
	1919	1929	1935
12" column, 4½" arm Radial Drill	T-150		
9½" column, 3½" arm Radial Drill	R-564		
16" x 8' Lathe	C-193		
18" x 8' Lathe	D-563		
Horizontal Boring Mill	S-117		
9½" column, 4" arm Radial Drill		H-108	
11" column, 4" arm Radial Drill		J-260	
13" column, 5" arm Radial Drill		K-362	K-279
12" column, 4" arm Radial Drill		T-256	
High Speed Radial, 3" arm		L-47	
9" column, 4" arm Radial Drill			G-135
11" column, 3" arm Radial Drill			J-280

MORTON MANUFACTURING CO., MUSKEGON, MICH.

	Last serial No. for year—		
	1919	1929	1935
Shapers			
60" T. H. P.	1341	1632	
72" T. H. P.	1312	1646	
84" T. H. P.	1314		
18" Keyseaters	1326		1727
24" Keyseaters	1356	1568	
36" P. Keyseaters	1362	1452	1743
Journal Miller		1641	
Flash Trimmers			1741

MURCHEY MACHINE AND TOOL CO., DETROIT, MICH.

Last serial No. for year:	
1919	L-5002
1929	D-3897
1935	G-3700

NATIONAL BROACH & MACHINE CO., DETROIT, MICH.

	Last serial No. for year—		
	1919	1929	1935
Gear Shaving Machine			154
Gear Sound Testing Machine			170
Gear Lapping Machine			210
Gear Measuring Machine			129

NATIONAL MACHINERY CO., TIFFIN, OHIO

Last serial No. for year:	
1919	10115
1929	13918
1935	14850

NEBEL MACHINE TOOL CO., CINCINNATI, OHIO

	Last serial No. for year—		
	1919	1929	1935
LN 16"-18"		Lot 11 Meh 13	32-027
AA 18"-20"		Lot 77 Meh 5	35-5325
B 20"-22"	Lot 29 Meh 25	Lot 35 Meh 3	35007
D 24"-26"	Lot 24 Meh 12	Lot 32 Meh 4	35034
N 25"-27"	Lot 19 Meh 6		35-5305
F 30"-32"	Lot 11 Meh 2	Lot 19 Meh 3	
AG Gap 1 1/4"-2 3/8"	Lot 2 Meh 1	Lot 25 Meh 8	35-5327
G Gap 2 1/4"-2 3/8"	Lot 15 Meh 7	Lot 30 Meh 4	35-5298

N. O. NELSON CO., EDWARDSVILLE, ILL.

Last serial No. for year:	
1919	5200
1929	5744
1935	5790

NEWARK GEAR CUTTING MACHINE CO., NEWARK, N. J.

Last serial No. for year:	
1919	468
1929	697
1935	737

NIAGARA MACHINE AND TOOL WORKS, BUFFALO, N. Y.

	Last serial No. for year—		
	1919	1929	1935
Power Presses	7156	12560	14170
Power Squaring Shears	2437	3274	33883
Power Rotary Shears	8062	8062	33883

NORTON CO., WORCESTER, MASS.

	Last serial No. for year—		
	1919	1929	1935
Plain Grinders Type A and C			
Plain Grinders Type BA	8170	11391	12267
Surface Grinders, 6" x 10"		BA550	
Surface Grinders, 6" x 18"		H-120	
Surface Grinders, 10" x 18"			H-401
Universal Grinders			M-166
Tool & Cutter Grinders		L-69	L-101
	2675	3283	3437

OESTERLEIN MILLING MACHINE

	Last serial No. for year—		
	1919	1929	1935
No. 1 & 2 Plain Milling Machine			
No. 1 & 2 Universal Milling Machine	A-636	A-739	
No. 2 & 3 Plain Milling Machine	B-321	B-483	
No. 2 & 3 Universal Milling Machine	C-515	C-611	
No. 3 & 4 Plain Milling Machine	D-409	D-500	
No. 3 & 4 Universal Milling Machine	E-162	E-200	
No. 2 Tool & Cutter Grinder	F-97	F-126	
No. 3 Tool & Cutter Grinder	S-705	S-972	
40" Ohio Tilted Rotary	T-357	T-490	
48" Ohio Tilted Offset Milling Machine	G-22	G-110	
28" Ohio Tilted Offset Milling Machine		H-47	
Aurora Drilling Machine		J-6	
		4392	

OHIO MACHINE TOOL CO., KENTON, OHIO

	Last serial No. for year—		
	1919	1929	1935
Ohio Shapers	95B-352	1B-10178	3M-1055
Ohio Planers	B-1961		47115
Ohio Production Milling Machines		B-10000	M-172
Ohio Horizontal Boring, Drilling & Milling			

OIL GEAR CO., MILWAUKEE, WIS.

Last serial No. for year:	
1919	about 50
1929	about 9550
1935	about 15000

OLIVER INSTRUMENT CO., ADRIAN, MICH.

	Last serial No. for year—	
	1929	1935
No. 4 Drill Grinder	D-463	
No. 5 Drill Grinder	D-475	
No. 31, No. 41, No. 51 Drill Grinders	E-01111	
Point Thinner	T-221	PT-319
No. 1 ARC Face Mill Grinder	C-153	
No. 2 ARC Face Mill Grinder	2-C-219	
Tap Grinder	TG-101	TG-205
No. 510 Drill Grinder		F-2164
Universal Tool & Cutter Grinder		UCG-152

OSTER MANUFACTURING CO., CLEVELAND, OHIO

	1919	1929	1935
Last serial No. for year	?	291031	35834

OLSEN TESTING MACHINE CO., PHILADELPHIA, PA.

Last serial No. for year:	
1919	8747
1929	19770
1935	25690

PAWTUCKET MANUFACTURING CO., PAWTUCKET, R. I.

	Last serial No. for year—		
	1919	1929	1935
Forging Machines:			
2 1/2"	451	486	
3"	456	496	
3 1/2"	454	500	
4"	455	501	
4 1/2"	439		
Shears:			
No. 1	184	217	221
No. 2	182		
No. 3		216	

PEDRICK MACHINE & TOOL CO., PHILADELPHIA, PA.

Last serial No. for year:	
1919	258—Horiz. Bor. Mill
1929	516—Bending Machine
1935	1556—Bending Machine

PEERLESS MACHINE CO., RACINE, WIS.

	Last serial No. for year—		
	1919	1921	1935
Standard:			
6" x 6"	7591	8238	8509
9" x 9"	9-1750	9-2541	9-2648
13" x 13"	13-203	13-460	13-474
Universal:			
6" x 6"		3160	3365
9" x 9"		U9-355	U9-520
13" x 13"		U13-2007	U13-2082
High Duty:			
16" Vertical			C-1616
4 1/2" x 4 1/2" Dry Cut		392	503
13" x 16" Cap Saw		405	409

HENRY PELS & CO., NEW YORK, N. Y.

Last serial No. for year:	
1919	4059
1929	10210
1935	12610

PERKINS MACHINE CO., PERKINS, MASS.

Last serial No. for year:	
1919	11850
1929	12838
1935	13252

POPE MACHINERY CORPORATION, HAVERHILL, MASS.

pe Vertical Milling Machine, Motor Driven, High Speed—1939..... 64059

PORTER-MCLEOD MACHINE TOOL CO., INC., HATFIELD, MASS.

Last serial No. for year:	
1919	2733
1929	3084
1935	3100

POTTER & JOHNSTON MACHINE CO., PAWTUCKET, R. I.

	Last serial No. for year—		
	1919	1929	1935
Model:			
5-A	20897	21325	
6-A	18314	19318	19418
4-D		335	620
5-D		51029	51232
6-D		704113	70704
6-C		70310	

POTTSTOWN MACHINE CO., POTTSTOWN, PA.

Last serial No. for year:	
1919	A3372
1929	0229
1935	0304

PRODUCTION MACHINE CO., GREENFIELD, MASS.

	Last serial No. for year—		
	1919	1929	1935
Type "A" Production Centerless Belt Feed Machine.....	2132	2530	2588
Type "S" Production Centerless Belt Feed Machine.....		5077	5157
Type "R" Multi-Purpose Machine.....		4039	4054
Type No. 101 Producing Centerless Machine.....			7040
Peerless Surfacing Machine—9", 14", 20" vertical & horizontal.....			9012

THE PRODUCTO MACHINE CO., BRIDGEPORT, CONN.

	Last serial No. for year—		
	1919	1929	1935
No. 1 Product Gear Cutter.....	1GM-C-246	1GM-5-303	1GM-1602
No. 2 Product Gear Cutter.....	2G-2153	2G-2400	2G-M8-366
No. 3 Product Gear Cutter.....	3 1/2 GA-393	3 1/2 N-3516	3 1/2 G-3526
No. 6 Bristol Hand Miller.....	AM-100	MAM-119	MAM-124
No. 6 Automatic Miller.....	6 1/2 G-624	6 1/2 G-77	6 1/2 G-80
No. 7 1/2 Automatic Miller.....	7G-68		7 1/2 G-104

PROVIDENCE ENGINEERING WORKS, INC., PROVIDENCE, R. I.

Last serial No. for year:	
1919	229
1929	921
1935	1575

QUICKWORK-WHITING, HARVEY, ILL.

	Last serial No. for year—				Last serial No. for year—		
	1919	1929	1935		1919	1929	1935
8A.....	Xx8x48	8Ax26x112	8Ax32x124	30A.....	3Sx2x3	3Sx14x66	3Sx15x60
10A.....	1Sx1x9	1Sx11x117	1Sx12x134	40A.....	4Sx1x1	4Sx8x42	4Sx14x52
20A.....	2Sx1x21	2Sx15x193	2Sx18x210	50A.....	5Sx1x6	5Sx6x26	5Sx7x29
23A.....			23Sx2x2	60A.....	10Kx5x48	6Sx8x61	6Sx10x63
25A.....		25Sx13x58	25Sx17x68				

RACINE TOOL & MACHINE CO., RACINE, WIS.

Last serial No. for year:	
1919	10852, A3563
1929	B3197, X578, J1020, E659
1935	B3632, X739, J1242, E886, W104, M166

REED-PRENTICE CORPORATION, WORCESTER, MASS.

	Last serial No. for year—		
	1919	1929	1935
Reed-Prentice Sl. Gear Hd. Lathes.....		13995	15139
Reed-Prentice Fric. Geared Hd. Lathe.....	10899		
Reed Cone Head Engine Lathes.....	6958		
Becker No. 2 Vertical Miller.....	16064		
Becker No. 3 Vertical Miller.....	16030		
Becker 4B Vertical Miller.....	16067		
Becker 5C Vertical Miller.....	16099		
Becker No. 6 Vertical Miller.....	16061		
No. 2 Type Reed-Prentice Vertical Miller.....		13799	15071
No. 3 Reed-Prentice Vertical Miller.....		13568	
3VG Miller.....			14346
No. 5 Reed-Prentice Vertical Miller.....		13191	15087
No. 6 Reed-Prentice Vertical Miller.....		13128	15054
3" Reed-Prentice Radial Drill.....	5262		
4" Reed-Prentice Radial Drill.....	5293		
5" Reed-Prentice Radial Drill.....	5219		

RICKERT-SHAVER CO., ERIE, PA.

Last serial No. for year:	
1919.....	4150
1929.....	44379
1935.....	57120

RIVETT LATHE & GRINDER, INC., BOSTON, MASS.

	Last serial No. for year—		
	1919	1929	1935
Lathe:			
No. 505.....	44	427	577
No. 608.....	26	241	358
Grinder:			
No. 103.....	64		
No. 104.....		146	199
No. 106.....	15	58	59
No. 112.....			102

W. ROBERTSON MACHINERY & FOUNDRY CO., BUFFALO, N. Y.

Last serial No. for year:	
1929.....	3DM-1405
1935.....	40-D-1962

ROCKFORD DRILLING MACHINE DIV., ROCKFORD, ILL.

Last serial No. for year:	
1919.....	OS-5844
1929.....	OS-10127
1935.....	OS-11091

ROCKFORD IRON WORKS, ROCKFORD, ILL.

Last serial No. for year:	
1919.....	1943
1929.....	3322
1935.....	3585

ROCKFORD MACHINE TOOL CO., ROCKFORD, ILL.

Last serial No. for year:	
1919.....	1750
1929.....	2917
1936.....	3363

ROWBOTTOM MACHINE CO., WATERBURY, CONN.

Last serial No. for year:	
1919.....	135-24
1929.....	135-73
1935.....	300-4-1

ROGERS MACHINE WORKS, ALFRED, N. Y., FORMERLY GANEY MACHINERY CO.

34" Vertical Turret Lathe With Side Head:	Last serial No.
1919.....	440
1929.....	1007
1935.....	1007

W. J. SAVAGE CO., KNOXVILLE, TENN.

Last serial No. for year:	
1919.....	614
1929.....	1015
1935.....	2084

WILLIAM SEELERS & CO., INC., PHILADELPHIA, PA.

	Last serial No. for year—		
	1919	1929	1935
Vertical Boring & Turning Mills.....	635	733	742
Planers.....	1418	1448	1465
Horizontals—Floor Boreers.....	1223	1302-1303	1329

SENECA FALLS MACHINE CO., SENECA FALLS, N. Y.

	Last serial No. for year—		
	1919	1929	1935
Star Engine Lathe:			
10".....	918818	920544	920654
12".....	118889	120316	120655
14".....	318620	320570	320609
Star Tool Room Lathe—14".....	218878	220520	220649
Short-cut Lathe—13".....	1092	1532	1574
Low-swing Lathe:			
3 1/2".....	4803	4954	
4".....		5535	5580
8".....	4370	4568	4582
Model R.....		6061	6077
Model U.....		25-U-5122	25-U-5187

SIBLEY MACHINE & FOUNDRY CORPORATION, SOUTH BEND, IND.

Last serial No. for year:	
1919.....	3098
1929.....	4483
1935.....	4547

THE SIDNEY MACHINE TOOL CO., SIDNEY, OHIO

Last serial No. for year:	
1919.....	2637—Lot 220
1929.....	5532—Lot 160
1935.....	5974—Lot 160

SMALLEY-GENERAL CO., BAY CITY, MICH.

Last serial No. for year:	
1919.....	30
1929.....	342
1935.....	355

THE SMITH & MILLS CO., CINCINNATI, OHIO

Last serial No. for year:	
1919.....	9800
1929.....	11101
1935.....	11229

SOUTH BEND LATHE WORKS, SOUTH BEND, IND.

Last serial No. for year:	
1919.....	22156
1929.....	46492
1935.....	63838

THE SPRINGFIELD MACHINE TOOL CO., SPRINGFIELD, OHIO

	Last serial No. for year—		
	1919	1929	1935
14".....	511	709	810
16".....	823	993	1054
18" and 20".....	691	901	999
24" and 27".....		290	

STANDARD ENGINEERING WORKS, PAWTUCKET, R. I.

Last serial No. for year:	
1919.....	1345
1929.....	1918
1935.....	1984

STANDARD MACHINERY CO., PROVIDENCE, R. I.

	Last serial No. for year—		
	1919	1929	1935
Automatic Drop Hammer:			
1/4.....	182	215	
1.....	416	580	592
2.....	237	387	392
3.....	135	225	233
4.....	66	102	
5.....	94	154	161
8.....	28	53	
Plain Drop Hammers:			
1/4.....	123	141	
1.....	349	394	
1 1/2.....	125		
2.....	66		
3.....	21		
3 1/2.....	30		
5.....	143	166	
8.....	24		
Turks Heads (Friction Drive) Universal Type:			
2-U.....		127	150
3-U.....		330	345
4-U.....		20	32
5-U.....		51	57
Turks Heads (Friction Drive) Plain Type:			
2-P.....		128	152
3-P.....		329	333
4-P.....		21	
Power Presses:			
2-B.....	122		189
3-B.....	209	232	
4-B.....	122	133	
5-B.....	83	103	
6-B.....	16		
2-J.....	60	123	127
3-J.....	74	96	
4-J.....	61	68	
5-J.....			53
5-S.....		644	743
7-S.....	189	346	417
5-S Double Plunger.....			881
7-S Double Plunger.....			104

JOHN B. STEVENS, INC., NEW YORK CITY

	Last serial No. for year—		
	1919	1929	1935
No. 11 Plain Milling Machine.....	614		
No. 12 Plain Milling Machine.....	1081		
No. 13 Plain Milling Machine.....	2720	5002	
No. 14 Plain Milling Machine.....	2753		
No. 15 Plain Milling Machine.....	574		
No. 2-A Plain Milling Machine.....	569		
No. 21 Plain Milling Machine.....	611		
No. 21 Geared Milling Machine.....	1941		
No. 20 Vertical Milling Machine.....	1929		
No. 22 Vertical Milling Machine.....	225		
No. 14 Vertical Spindle Miller.....	603		
No. 15 Vertical Spindle Miller.....	51		
No. 1 Duplex Milling Machine.....	79		
No. 1 1/4 Duplex Milling Machine.....	76		
No. 2 Duplex Milling Machine.....	106		
No. 3 Duplex Milling Machine.....	172		
No. 60 Screw Machine.....	190		
No. 1 Screw Machine.....	262	505	
No. 2 Screw Machine.....	1729	2002	
No. 2 1/4 Screw Machine.....	2103	3002	
No. 12 1/4 Screw Machine.....	1782	5005	
No. 1 1/4 Universal Miller.....	1780		
No. 2 Universal Miller.....	2139		
No. 2-A Universal Miller.....	1093		
No. 3-A Universal Miller.....	1045		
No. 60 Duple Drill.....	112		
No. 0 Duple Drill.....		103	
No. 1 Duple Drill.....		202	
No. 2 Duple Drill.....		402	
No. 11 Saving Machine.....		502	
12" Hand Lathe.....		2005	
		1071	

STORM MANUFACTURING CO., INC.

Model P—Manufactured from 1929 to 1932
 Model D—Manufactured from 1931 to 1935.
 Model DE—Manufactured from 1935 to 1942.

THE STREINE TOOL & MANUFACTURING CO., NEW BREMEN, OHIO

Last serial No. for year:	
1919.....	107
1929.....	785
1935.....	1009

SUNDSTRAND MACHINE TOOL CO., ROCKFORD, ILL.

	Last serial No. for year—		
	1919	1929	1935
"Rockford" Knee Type Millers (All Types).....	2678	5047	
No. 1 Rockford Hand Millers.....	3201	5297	
No. 2 Rockford Hand Millers.....	3306	5283	5353
No. 3 Rockford Hand Millers.....	E-3161	E-5089	E-550
Rockford Tool Room & Engine Lathes.....	A-1108	A-1244	
No. 3 Rockford Miller.....		4547	
Sundstrand 9" Mfg. Lathes.....	D-443	D-940	D-983
Double End Lathes.....		165	61-2
8" Sundstrand Stub Lathes.....		H-1218	H-1529
12" Sundstrand Stub Lathes.....		J-126	12-314
6" Automatic Stub Lathe.....			13-81
15" Sundstrand Automatic Lathes.....		N-163	N-182
Model 8 Automatic Lathes ¹			10-37
Model 10 Automatic Lathes.....		5302	03-081
No. 3 Sundstrand Rigidmill.....		5105	05-18
No. 5 Sundstrand Rigidmill.....			3A-8
No. 3A Rigidmills.....		1041	80-46
Radius and Link Grinders.....			05-60
Three-Wheel Tool Grinders.....		CM-750	53-137
No. 53 Centering Machines.....			56-44
No. 56 Centering Machine.....			96-13
Special Machines.....			

¹ Introduced 1937.

SUPERIOR MACHINE & ENGINEERING CO., DETROIT, MICH.

	Last serial No. for year—		
	1919	1929	1935
Milling.....	77	240	279
Slot Miller.....	36	76	102

TABOR MANUFACTURING CO., PHILADELPHIA, PA.

Last serial No. for year:	
1919.....	13941
1929.....	19730
1935.....	20251

TAYLOR & FENN CO., HARTFORD, CONN.

	Last serial No. for year—		
	1919	1929	1935
20" Wet Tool Grinder.....	1700	2072	2084
Vertical Milling Machine.....	100	289	334
6" Duplex Spline Mill. Machine, Internal Bore Grinder.....	13	76	96
M6 Pl. Bearing Drill. Machine, Column Not Numbered.....		1714	1732
M6 Pl. Bearing Drill. Machine, Head Not Numbered.....		3900	4036
M66 Production Drill. Machine, Column.....		73	195
M66 Production Drill. Machine, Head.....		328	490
M60 High Speed Drill. Machine, Column.....			198
M60 High Speed Drill. Machine, Head.....			129

THOMAS MACHINE MANUFACTURING CO., PITTSBURGH, PA.

Last serial No. for year:	
1919.....	702
1929.....	4216
1935.....	5731

THOMPSON GRINDER CO., SPRINGFIELD, OHIO

Last serial No. for year:	
1919.....	229
1929.....	380
1935.....	A-3581

TOLEDO PIPE THREAD MACHINE CO., TOLEDO, OHIO

	Last serial No. for year—	
	1929	1935
No. 999.....	625	2174
No. 1-2-4.....		42
2 H. S.....		25
No. 1000-M R. D. Rad.....		21

TORRINGTON CO., TORRINGTON, CONN.

Last serial No. for year:	
1919.....	1477
1929.....	2209
1935.....	S-2382

UNITED STATES ELECTRICAL TOOL CO., CINCINNATI, OHIO

Last serial No. for year:	
1919.....	45280
1929.....	112981
1935.....	145246

VAN NORMAN MACHINE TOOL CO., SPRINGFIELD, MASS.

Last serial No. for year:	
1919.....	7479
1929.....	12566
1935.....	13221

VERSON ALLSTEEL PRESS CO., CHICAGO, ILL.

Last serial No. for year 1935.....	1691
------------------------------------	------

V. & O. PRESS CO., INC., HUDSON, N. Y.

	Last serial No. for year—				Last serial No. for year—		
	1919	1929	1935		1919	1929	1935
020.....	7710	770-13	770-17	6	5941	620-20	620-23
00.....	7468	730-28	001-157	6 1/2			601-3
015.....		001-128	002-6	10 1/2	6488		
0.....	8081	750-44	750-78	11	5945		32548
		670-1 to 11	0-125	12	7990		
01.....	8023	610-A to L	010-184	12 1/2		27661	32549
01W.....		610-1 to 21	010-W-2	13	7532		33387
		010-117		14	7346	25740	28932
1.....	7967	550-A to Q	100-289	15		23632	32547
		100-174		20	8082	26809	28223
1W.....		660-B to Y	1-W-1	21	6626	210-8	210-8
		600-1 to 20		22	7647	220-7	220-7
1 1/2.....	7558	500-A to Y	150-264	22 1/2	7284		225-1
		650-1 to 35		23	8026	230-4	230-4
2.....	8112	150-178	200-236	23 1/2		B-23 1/2 S-42	B-23 1/2 S-50
2W.....	5721	500-A to Y	2-W-5	24	7295	240-1	240-1
2 1/2.....	8176	200-114	2-W-17	31	7989	27379	
2 1/2 W.....	7291	630-1 to 79	25-W-18	31 1/2		27742	
		530-A to I		41	7179	720-13	720-57
3.....	8170	530-1 to 34	300-180	42		540-12	540-24
3W.....		560-A to O	3-W-3	43			430-3
3 1/2.....		660-1 to 37	32974	44			440-3
		300-115	27812	45			450-4
3 1/2.....		350-1 to 43	351-113 to	70	7411	701-1	701-6
		351-1 to 112	351-125	71	7899	710-84	710-100
3 1/2.....		510-1 to 34	352-1 to 26	72	7431	740-14	740-24
		400-110		73	6355	731-12	731-14
4.....	7907	520-A to J	400-157	101	7837	760-8	760-8
		520-1 to 28		102	7988	26981	31171
4W.....		4-W-2	4-W-4	103	7561	25131	
5.....	7753	640-10	502-1 to 12	104	7335	24863	
5W.....		801-85	501-98	201		570-3	
5 1/2.....		5-W-9	5-W-11	201W.....		970-23	970-34
		551-30	551-44	202.....		971	
				201 1/2.....		980-3	980-33
				201 1/4 W.....		580-10	981-1
				202 1/2.....			982-4
				41N.....		41N-31	41N-53
				410.....			410-17

O. S. WALKER CO., WORCESTER, MASS.

	Last serial No. for year—		
	1919	1929	1935
Model DA Machine.....		58	68
Model DB Machine.....			9

WALSH PRESS AND DIE CO., CHICAGO, ILL.

Last serial No. for year:	
1919.....	1549
1929.....	2552
1935.....	2638

WARNER AND SWASEY CO., CLEVELAND, OHIO

Last serial No. for year:	
1919.....	149,999
1929.....	354,999
1935.....	415,000

WATERBURY FARREL FOUNDRY & MACHINERY CO., WATERBURY, CONN.

	Ser. No.
No. 40 Thread Roller, manufactured 1928.....	122
No. 41½ A Pillar Type Press, manufactured 1916.....	46569
No. 33 W-F Double Stroke Solid Die Cold Bolt Header.....	83766-28
No. 10 Automatic Inclined Thread Roller, 1936.....	11598-881
No. 50 WOF Hand Thread Roller, Machine No. 76.....	86148
No. 3½ Solid Die Double Stroke Header, 1918.....	59798
No. 2 ½ capacity Crank Type Solid Die Single Stroke Header, 1912.....	30776-29
No. 2 Back geared Double Action Drawing Press—1927.....	85021

WATSON-STILLMAN CO., ROSELLE, N. J.

Last serial No. for year:	
1919.....	30,022
1929.....	45,527
1935.....	51,506

WESTERN MACHINE TOOL WORKS, HOLLAND, MICH.

	Last serial No. for year—		
	1919	1929	1935
Western Radial Drills.....	5065	E-11340-TB	E-11971-TB-D
Chard Lathes.....	1054, lot 25	1554, lot 30	4449, lot 102
Garvin Auto. Tappers:			
No. 2-X.....	1941	5371	5440
No. 1.....	1263	4307	4384
No. 2-BG.....	1740	6037	6052
No. 3-B.....			6501
Western High Speed Radials.....			HS-1011-D
Steptoe Shaper.....		BB-40158-TB	A-40284-TB

WHITNEY METAL TOOL CO., ROCKFORD, ILL.

Last serial No. for year 1935.....	396
------------------------------------	-----

WICACO MACHINE CORPORATION, PHILADELPHIA, PA.

Last serial No. for year:	
1929.....	500-E-1
1935.....	500-H-11

WICKES BROS., SAGINAW, MICH.

	Last serial No. for year—		
	1919	1929	1935
36" Engine Lathe.....	37646	3234	
42" Engine Lathe.....	43153		
48" Engine Lathe.....		4024	
60" Engine Lathe.....		4584	
20" Engine Lathe.....	41034		
24" Engine Lathe.....	39639	31013	
26" Engine Lathe.....	38802	4083	
30" Engine Lathe.....	42044	3659	6516
32" Engine Lathe.....	39803	4072	

WILLIAMS TOOL CORPORATION, ERIE, PA.

Last serial No. for year:	
1919.....	3598
1929.....	6364
1935.....	35520

WILLIAMS, WHITE & CO., MOLINE, ILL.

Last serial No. for year:	
1919.....	8989
1929.....	C-522
1935.....	C-855

ZEH AND HAHNEMANN CO., NEWARK, N. J.

Last serial No. for year:	
1919.....	7723
1929.....	14220
1935.....	15971

ABRASIVE MACHINE TOOL CO., EAST PROVIDENCE, R. I.

GRINDERS

Type	Size	Price
No. 1½	10" x 15" x 12"	\$975
No. 3B	8" x 24" x 12"	1,820
No. 34	Vertical spindle (8 x 24 x 12")	1,900
No. 5	14" x 48" x 14"	4,800
No. 6	14" x 60" x 14"	5,350

ACME MACHINE TOOL CO., CINCINNATI, OHIO

RAM TYPE TURRET LATHES (UNIVERSAL)

Model No.	Bar capacity	Length turret travel	Swing over vees	Weight bare machine (pounds)	Price arr. for motor drive	Extra 2" cap. auto. chuck, master collet, and power screw bar feed	Extra 2½" cap. auto. chuck, master collet, power screw bar feed
5R	2"	14"	20"	4,400	\$4,040	\$390	
6R	2½"	14"	20"	4,550	4,440		\$450

WAY TYPE TURRET LATHE (UNIVERSAL)

Model No.	Bar capacity	Swing over vees	Weight bare machine (pounds)	Price arranged for motor drive	Extra 2" cap. auto. chuck, master collet, power screw bar feed	Extra 2½" cap. auto. chuck, master collet, power screw bar feed
5W	2"	20"	4,450	\$4,190	\$385	
6W	2½"	20"	4,650	4,675		\$440

SADDLE TYPE TURRET LATHES (UNIVERSAL)

Model No.	Bar capacity round	Swing over vees	Swing over cross slide	Weight	Price arranged for motor drive	Extra for cross sliding hollow hexagon turret	Extra 2' bed	Extra 3' bed
Fixed center hollow hexagon turret:	Inches	Inches		Pounds				
1	2½	20		6,750	\$5,785		\$500	\$630
1-S-28"	2½	20		7,160	6,635	\$595	500	630
2	3½	20		6,750	6,125		500	630
3-S	4½	26½		9,600	8,525	800	625	875
3-S-28"	4½	30		10,000	9,215	800	625	875
Cross sliding hollow hexagon turret:								
1	2½	20	14	6,750	6,200		500	630
2	3½	20	14	6,750	6,720		500	630

(66)

ACME MACHINE TOOL CO., CINCINNATI, OHIO—Continued

Models discontinued Jan. 27, 1940

RAM TYPE UNIVERSAL TURRET LATHE

	Weight	Price
Model 4R—18" swing, arranged for motor drive	Pounds 4,210	\$3,300

\$350 extra for 1½" capacity automatic chuck, master collet, and power screw bar feed.

SADDLE TYPE TURRET LATHES

Model	Weight	Price
Fixed center hollow hexagon turret:	Pounds	
3	8,600	\$6,725
17 and 4½"	8,600	7,525
Cross sliding hollow hexagon turret:		
3	8,600	7,380
17 and 4½"	8,600	8,250

UNIVERSAL BRASS LATHE

	Weight	Price
21" full universal geared head monitor turret lathe with setover turret. Taper attachment and bed-type chasing attachment; arranged for motor drive	Pounds 5,000	\$3,960

\$405 extra for 1½" capacity automatic chuck, master collet, bar feed, stock support, and operating mechanism.

ACME MACHINERY DIVISION (THE HILL-ACME CO.), CLEVELAND, OHIO

ACME SINGLE BOLT CUTTERS—CLASS A

[Fitted with special adjustment hobbled type dieheads]

Size	Price of machine only	Add for cap dies (carbon steel)		Add for nut taps (carbon steel)		Add for tap chuck	Price of machine complete	Extra for—			
		Number sets	Price	Number	Price			Power feed attachment	Lead screw	Motor drive arrangement without motor	
1½"	\$620	5	\$47.50				\$667.50				
1"	770	7	66.50	7	\$10.00	\$23.00	869.50	\$127	\$36.50	\$350	\$225
1¼"	795	8	76.00	8	16.90	24.25	912.15	127	36.50	350	225
1½"	820	9	85.50	9	27.25	24.25	957.00	127	36.50	350	225
2"	1,075	11	126.50	11	48.75	33.00	1,283.25	145	46.00	425	275
2½"	1,600	13	175.50	13	137.40	42.50	1,955.40	165	57.00	425	275
3"	1,920	13	201.50	13	241.00	55.00	2,417.50	230	60.00	475	360
3½"	2,035	15	232.50	15	380.00	55.00	2,702.50	265	72.00	625	360
4"	2,460	18	247.00	(1)	(1)	69.50	2,776.50	265	72.00	625	360
5"	2,530	15	315.00	(1)	(1)	75.00	2,920.00	265	72.00	625	360
6"	2,875	17	391.00	(1)	(1)	82.50	3,348.50	265	72.00	625	360

1 No taps included.

ACME MACHINERY DIVISION (THE HILL-ACME CO.), CLEVELAND,
OHIO—Continued

ACME SINGLE BOLT CUTTERS—CLASS A—Continued

SPECIFICATIONS

Size	Detail sizes of cap dies furnished in regular equipment		Weights		Motor Requirements	
	Number sets	Sizes (inches)	Gross pounds	Net pounds	Size	Approximate speed
1/2"	5	1/4 to 1/2 by 16ths	1,250	950	1 hp.	1,200
1"	7	1/4 to 1 by 8ths	1,800	1,400	2 hp.	1,200
1 1/4"	8	3/8 to 1 1/4 by 8ths	2,100	1,750	3 hp.	1,200
1 1/2"	9	1/2 to 1 1/2 by 8ths	2,300	1,850	3 hp.	1,200
2"	11	1/2 to 1 1/2 by 8ths, 1 3/4, 2	3,200	2,600	5 hp.	1,200
2 1/2"	13	3/4 to 2 by 8ths, 2 1/4, 2 1/2	4,000	3,400	7 1/2 hp.	1,200
3"	13	1 to 2 by 8ths, 2 1/4, 2 1/2, 2 3/4, 3	4,700	4,100	7 1/2 hp.	1,200
3 1/2"	15	1 to 2 by 8ths, 2 1/4 to 3 1/2 by 4ths	4,900	4,200	7 1/2 hp.	1,200
4"	13	1 1/4 to 2 by 8ths, 2 1/4 to 4 by 4ths	7,200	6,000	10 hp.	1,200
5"	15	1 1/4 to 2 by 8ths, 2 1/4 to 4 by 4ths, 4 1/2, 5	7,200	6,200	10 hp.	1,200
6"	17	2 to 6 by 4ths	8,300	7,300	10 hp.	1,200

ACME DOUBLE BOLT CUTTERS—CLASS A

[Fitted with special adjustment hobbled dieheads]

Size	Price machine only	Add for cap dies carbon steel		Add for nut taps carbon steel		Add for tap chuck	Price of machine complete	Extra for—			
		Number sets	Price	Number	Price			Power feed attach	Lead screw	Motor drive arrangement without motor	
										Constant speed	Variable speed
1/2"	\$940	10	\$95.00				\$1,035.00				
1"	1,380	12	114.00	7	\$10.00	\$23.00	1,527.00	\$254	73	\$350	\$225
1 1/4"	1,435	13	123.50	8	16.90	24.25	1,599.65	254	73	350	225
1 1/2"	1,570	14	133.00	9	27.25	24.25	1,754.50	254	73	350	225
2"	1,975	20	230.00	11	48.75	33.00	2,286.75	290	92	425	275
2 1/2"	2,425	24	324.00	13	137.40	42.50	2,928.90	330	114	535	275
3"	3,325	No Dies or Taps Included in Reg. Equip.					3,325.00	460	120	535	360

SPECIFICATIONS

Size	Detail sizes of cap dies furnished in regular equipment		Weight		Motor requirements	
	Number sets	Sizes (inches)	Gross pounds	Net pounds	Size	Approximate speed
1/2"	10	2 each 1/4 to 1/2 by 16ths	1,800	1,550	2 hp.	1,200
1"	12	2 each 1/4 to 1 by 8ths				
1 1/4"	13	1 each 3/8, 1	2,750	2,300	3 hp.	1,200
1 1/2"	14	2 each 1/4 to 1 by 8ths	3,600	2,800	5 hp.	1,200
2"	20	1 each 1 1/4 to 1 1/2 by 8ths	3,800	3,200	5 hp.	1,200
2 1/2"	24	2 each 1/2 to 1 1/2 by 8ths	4,900	4,300	7 1/2 hp.	1,200
3"		1 each 1 3/4, 2	6,500	5,700	10 hp.	1,200
		2 each 3/4 to 2 by 8ths				
		1 each 2 1/4, 2 1/2	8,500	7,200	10 hp.	1,200
		No dies incl. in reg. equip't				

ACME MACHINERY DIVISION (THE HILL-ACME CO.), CLEVELAND,
OHIO—Continued

ACME TRIPLE BOLT CUTTER—CLASS A

[Fitted with special adjustment hobbled die heads]

Taps and Tap Chuck not furnished with these machines unless ordered

Size	Price machine only	Add for cap dies carbon steel		Price of machine complete	Extra for—			
					Power feed attachment	Lead screw	Motor drive arrangement without motor	
							Constant speed	Variable speed
1"	\$2,000.00	6	\$57.00	\$2,057.00	\$381.00	\$109.50	\$425.00	\$275.00
1 1/4"	2,350.00	9	85.50	2,435.50	381.00	109.50	425.00	275.00
2"	2,975.00	11	126.50	3,101.50	435.00	138.00	550.00	275.00

SPECIFICATIONS

Size	Detail sizes of cap dies furnished in regular equipment		Weights		Motor requirement	
	Number sets	Sizes (inches)	Gross pounds	Net Pounds	Size	Approximate speed
1"	6	1 each 3/8 to 1 by 8ths	3,250	2,850	5 hp.	1,200
1 1/4"	9	1 each 1/2 to 1 1/2 by 8ths	4,400	3,900	7 1/2 hp.	1,200
2"	11	1 each 1/2 to 1 1/2 by 8ths, 1 3/4, 2	6,500	5,800	10 hp.	1,200

ACME QUADRUPEL BOLT CUTTERS—CLASS A

[Fitted with special adjustment hobbled type die heads]

Of any standard pitches within range of machine

Size	Price machine only	Add for cap dies carbon steel		Price of machine complete	Extra for—			
					Power feed attachment	Lead screw	Motor drive arrangement without motor	
							Constant speed	Variable speed
1"	\$2,625	8	\$76.00	\$2,701	\$508	\$146	\$425	\$275
1 1/2"	3,000	8	76.00	3,076	508	146	500	275

Regular equipment consists of the machine fitted with diehead, pump, countershaft and automatic attachment and necessary wrenches.

Regular equipment of dies consist of carbon steel cap dies for cutting U. S. S. sharp V, Whitworth or metric threads of sizes listed on reverse side of page.

Above machines can be equipped with tangent dieheads at a slight additional cost.

Dies for cutting special threads—Advance 50 percent over prices listed for standard dies.

For price of high speed steel dies—see sheet 21-D.

For price of extra dies and caps—see sheet 21-D.

SPECIFICATIONS

Size	Detail sizes of cap dies furnished in regular equipment		Weights		Motor requirement	
	Number sets	Sizes (inches)	Gross pounds	Net Pounds	Size	Approximate speed
1"	8	Of any standard pitches within range of machine.	5,200	4,400	7 1/2 hp.	1,200
1 1/4"	8	Of any standard pitches within range of machine.	6,700	5,800	10 hp.	1,200

ACME MACHINERY DIVISION (THE HILL-ACME CO.), CLEVELAND,
OHIO—Continued

ACME SINGLE STAYBOLT CUTTER—CLASS A

[Fitted with acme hobbled type dieheads]

Size	Price of machine only	Add for cap dies, carbon steel		Add for nut taps		Add for tap chuck	Price of machine complete	Extra for—			
		Number sets	Price	Number	Price			Power feed attachment	Lead screw	Constant speed	Variable speed
1½"-----	\$1,085	9	\$85.50	9	\$27.25	\$24.25	\$1,222.00	\$127	\$48	\$350	\$225

ACME DOUBLE STAYBOLT CUTTER—CLASS A

[Fitted with acme hobbled type die heads]

1½"-----	\$1,782	14	\$133.00	9	\$27.25	\$24.25	\$1,946.50	\$254	\$96	\$350	\$225
----------	---------	----	----------	---	---------	---------	------------	-------	------	-------	-------

Taper threading attachment applied to staybolt cutters, net \$250 per spindle.

ACME SINGLE BOLT CUTTERS—CLASS B

[Fitted with acme hobbled type die heads]

1"-----	\$550	6	\$57.00	6	\$9.54	\$23.00	\$639.54	(Class "B" machines are not equipped with power feed attachment or arranged for motor drive.			
1½"-----	575	8	76.00	8	16.90	24.25	692.15				
1½"-----	625	9	85.50	9	27.25	24.25	762.00				

ACME LONG BED BOLT CUTTERS

[Fitted with acme hobbled type die heads]

Size	Price of machine with—			Add for carbon cap dies per set	Add for H. S. cap dies per set	Add for lead screws			Extra for motor drive arrangement without motor	
	8' bed	10' bed	12' bed			8' bed	10' bed	12' bed	Constant speed	Variable speed
2"-----	\$1,600	\$1,675	-----	\$11.50	\$19.25	\$71.50	\$93.50	-----	\$425	\$275
2½"-----	-----	2,100	\$2,175	13.50	25.00	-----	110.00	-----	425	275
3"-----	-----	2,425	2,600	15.50	34.00	-----	110.00	137.50	485	350
3½"-----	-----	2,525	2,660	15.50	34.00	-----	110.00	137.50	485	350
4"-----	-----	2,860	3,000	19.00	48.00	-----	110.00	137.50	625	350
5"-----	-----	3,050	3,160	21.00	48.00	-----	110.00	137.50	625	350
6"-----	-----	3,300	3,450	23.00	50.00	-----	110.00	137.50	625	350

Regular equipment consists of the machine fitted with die head, pump, countershaft, and automatic attachment and necessary wrenches.

Class B machines are equipped with oil reservoir in place of oil pump.

Long-bed machines are equipped with power feed attachment.

Regular equipment of dies consist of carbon steel cap dies for cutting U. S. S. sharp V, Whitworth or metric threads of sizes listed on reverse side of page.

Above machines can be equipped with tangent die heads at a slight additional cost.

ACME MACHINERY DIVISION (THE HILL-ACME CO.), CLEVELAND,
OHIO—Continued

ACME HAND NUT TAPPERS

Size machine	Price machine only	Number	Add for taper taps U. S. S., sharp V, Whitworth or metric			Add for ring sockets		Price machine complete	Add for motor drive without motor	Deduct for pump if not required
			Sizes (inches)	Length	Price	Number	Price			
1½"---4 spindle....	\$630	4	1 ea. 1½, ¾, ¾, ½	12"	\$3.70	4	\$55.00	\$688.70	\$230	\$16
1½"---6 spindle....	1,075	6	2 ea. 1½ to 1½ by 8ths...	12"	5.70	6	82.50	1,163.20	230	16
1"---4 spindle....	1,060	6	1 ea. ¾ to 1 by 8ths...	12"	11.35	6	99.00	1,170.35	230	16
1"---6 spindle....	1,350	6	1 ea. ¾ to 1 by 8ths...	12"	11.35	6	99.00	1,460.35	300	16
1½"---4 spindle....	1,280	9	1 ea. ½ to 1½ by 8ths...	15"	34.00	9	180.00	1,494.00	300	20
1½"---6 spindle....	1,730	9	1 ea. ½ to 1½ by 8ths...	15"	34.00	9	180.00	1,944.00	300	20
2"---4 spindle....	1,675	11	1 ea. ¾ to 1½ by 8ths...	15"	56.00	11	242.00	1,973.00	385	20
2"---6 spindle....	1,900	11	1 ea. ¾ to 1½ by 8ths...	15"	56.00	11	242.00	2,198.00	385	20

ACME SEMIAUTOMATIC NUT TAPPERS

1½"---6 spindle....	\$1,760	6	1½"-----	12"	\$6.90	6	\$210.00	\$1,976.90	\$230	\$16
1½"---6 spindle....	1,950	6	¾"-----	15"	12.00	6	99.00	2,061.60	230	16
1"---6 spindle....	2,400	6	1"-----	15"	21.90	6	99.00	2,520.90	440	16
1½"---6 spindle....	3,250	6	1"-----	15"	21.90	6	120.00	3,391.90	440	20
1½"---8 spindle....	4,250	8	1"-----	15"	21.90	8	170.00	4,439.20	440	20
1½"---10 spindle....	5,300	10	1"-----	15"	36.50	10	200.00	5,536.50	760	20
2"---6 spindle....	4,785	6	1"-----	15"	21.90	6	132.00	4,938.90	550	20

1 One-half inch semiautomatic tappers are equipped with special adjustable quick acting chucks to accommodate straight shank taps 1½" and smaller, 12" long over-all. ¾" semiautomatic tappers may also be equipped in this manner at a slight additional cost, but ring sockets are provided for the larger sizes of taps.

ACME DOUBLE-REVERSING NUT TAPPERS

Size	Capacity hex and square nuts	Price of machine with regular equipment	Add for motor drive attachment without motor	Size motor required (variable speed)	Specifications, regular equipment
1½"	1½" nuts and smaller...	\$1,900	\$230	2 hp.	Machine complete with pump, countershaft, wrenches, and automatic attachment.
1"	1" nuts and smaller...	2,000	230	3 hp.	
1½"	1½" nuts and smaller...	2,400	230	5 hp.	
2"	2" nuts and smaller....	2,950	300	7½ hp.	

ACME HAND NUT BURNING MACHINES

1"	1" nuts and smaller...	\$420	\$145	3 hp.	Machine complete with countershaft, wrenches, 3 cutter blades, 9 pilots and adjustable nut holder.
1½"	1½" nuts and smaller...	475	145	5 hp.	

ACME SINGLE SPINDLE SEMI-AUTOMATIC NUT BURNING MACHINES

1"	1" nuts and smaller...	\$2,050	\$215	3 hp.	Machine complete with countershaft, wrenches, 1 set cutter blades, 5 sets of adjusting strips, 5 nut pilots.
1½"	1½" nuts and smaller...	2,175	215	3 hp.	
2"	2" nuts and smaller...	2,275	230	5 hp.	

ACME DOUBLE SPINDLE SEMI-AUTOMATIC NUT BURNING MACHINES

¾"	¾" nuts and smaller...	\$2,250	\$215	3 hp.	Machine complete with countershaft, wrenches, 2 sets cutter blades, 10 sets of adjusting strips, 10 nut pilots.
1"	1" nuts and smaller...	2,900	215	3 hp.	
1½"	1½" nuts and smaller...	3,400	215	3 hp.	
2"	2" nuts and smaller...	3,650	230	5 hp.	

ACME MACHINERY DIVISION (THE HILL-ACME CO.), CLEVELAND, OHIO—Continued

ACME BOLT POINTERS

Size	Equipment	Price machine complete	Specifications
1/2"	5 sets cutting tools... Carbon steel...	\$420	Each machine is complete with pump, countershaft and necessary wrenches.
1"	6 sets cutting tools... Carbon steel...	560	
1 1/2"	9 sets cutting tools... Carbon steel...	645	
2"	11 sets cutting tools... Carbon steel...	765	

ACME MODEL XN HEADING, UPSETTING, AND FORGING MACHINES

[Fitted with silent clutch]

Size machine	Price	Motor required		Allowance for—			Add for—	
		Size (hp.)	Speed (r. p. m.)	Lubricating system	Motor drive attachment	Sample dies	Jib crane without hoist	Rivet attachment
1"	\$8,950	10	1,200	\$200	\$125	\$150.00		\$275
1 1/2"	10,800	10	1,200	200	160	187.50		275
2"	12,680	15	1,200	250	210	225.00		300
2 1/2"	16,485	20	1,200	275	220	300.00		325
3"	19,890	25	1,200	300	235	375.00		350
3 1/2"	25,870	30	1,200	350	250	450.00		400
4"	38,150	50	1,200	350		600.00		430
5"	50,250	60	1,200	400		750.00		425
6"	72,500	75	1,200	400	(1)			430
8"	76,125	75	1,200	400	(1)			(2)

1 Not included.
 2 18" stroke standard.
 3 20" stroke special.

Motor specifications: High torque, high slip, continuous rating, constant speed motors required for all sizes model XN machines.

Note: 1 1/2" machines and smaller are equipped with side shear. 2" machines and smaller can be equipped with rivet attachment if desired.

Specifications: Regular equipment—centralized pressure feed lubrication system, motor-driven with adjustable time cycle operating with main motor. Vertical automatic relief device, cushion drive, one set sample dies (see note). Machine arranged for motor drive through multiple "V" belt, without motor.

SPECIFICATIONS

Size machine	Capacity	Net weight	Strokes of machine (per minute)	Floor space
1"	1" and smaller	14,000	90	4'8" x 8'9"
1 1/2"	1 1/2" and smaller	19,150	85	
2"	2" and smaller	27,150	75	5'4" x 10'3"
2 1/2"	2 1/2" and smaller	40,600	65	6'0" x 11'6"
3"	3" and smaller	57,000	55	6'5" x 13'2"
3 1/2"	3 1/2" and smaller	80,500	45	6'6" x 13'0"
4"	4" and smaller	100,000	35	7'8" x 18'0"
5"	5" and smaller	190,000	30	8'8" x 19'3"
6"	6" and smaller	255,000	27	

ACME MACHINERY DIVISION (THE HILL-ACME CO.), CLEVELAND, OHIO—Continued

ACME "ALL STEEL" HAMMER BOLT MACHINES

Size	Capacity	Price of machine with regular equipment	Add for motor-drive attachment without motor	Motor required		Specifications for machine with regular equipment
				Size (hp.)	Approximate speed	
1/2"	1/2" diameter and smaller...	\$3,300	\$580	5	1,200	Complete with countershaft, necessary wrenches, and one set of sample tools.
3/4"	3/4" diameter and smaller...	4,350	660	7 1/2	1,200	
1"	1" diameter and smaller...	5,675	725	10	1,200	

SPECIFICATIONS

Size	Gross weight	Net weight	Floor space	Speed machine (r. p. m.)	Width of belt
1/2"	4,200	3,500	5'2" x 3'3 1/2"	120	4"
3/4"	6,100	5,300	5'11" x 3'9"	110	4"
1"	8,500	7,600	7'0" x 4'7"	100	5"

ACME "ALL STEEL" HOT PRESSED NUT MACHINES

Size	Capacity	Price of machine with regular equipment	Add for motor-drive attachment without motor	Motor required		Specifications for machine with regular equipment
				Size (hp.)	Approximate speed	
3/8"	3/8" to 5/8"	\$5,150	\$660	7 1/2	1,200	Complete with necessary wrenches and set of sample tools. (No countershaft is necessary on this machine.) For making square or hexagon nuts.
1"	1/2" to 1"	7,600	695	10	1,200	
1 1/2"	3/4" to 1 1/2"	10,560	880	15	900	
2"	1" to 2"	14,450	910	20	800	

SPECIFICATIONS

Size	Gross weight	Net weight	Floor space	Speed machine (r. p. m.)	Width of belt
3/8"	10,000	9,000	7'6" x 5'0"	90	5"
1"	17,000	15,600	9'6" x 6'0"	75	6"
1 1/2"	25,000	23,300	11'6" x 6'7 1/2"	60	6"
2"	32,500	30,400	13'10" x 7'1"	45	7"

ACME "ALL STEEL" HOT FORGED NUT MACHINES

Size	Capacity	Price machine complete	Regular equipment
3/8"	1/4" to 3/8"	\$2,650	Complete with countershaft wrenches and one set of sample tools. This machine is used for making square nuts only.
1"	3/8" to 1"	3,760	
1 1/2"	3/4" to 1 1/2"	4,750	
2"	1" to 2"	6,200	

SPECIFICATIONS

Size	Gross weight	Net weight	Floor space	Speed machine (r. p. m.)	Width of belt
3/8"	2,600	2,070	3'8" x 3'6"	120	4"
1"	5,200	4,350	4'8" x 6'4"	85	4"
1 1/2"	6,000	5,000	5'1" x 5'4"	75	5"
2"	8,000	7,500	5'10" x 6'2"	60	6"

ADAMS CO., DUBUQUE, IOWA
GEAR HOBBER AND THREAD MILLERS

Machine size	For gear diameter up to—	Maxi-mum distance between centers	Net weight current (pounds)	Current price
Gear hobber and thread miller:				
5.....	10"	48"	6, 125	\$5, 550
6.....	10"	24"	5, 325	5, 075
Manufacturing hobber:				
5M.....	8"	48"	6, 125	5, 550
6M.....	8"	24"	5, 325	5, 075

GEAR HOBBER—DISCONTINUED MODELS

Model No.	Net weight when discontinued (pounds)	Price when discontinued
#1.....	1, 250	\$1, 200
#2.....	2, 500	2, 200
#3.....	4, 000	2, 500
#4.....	4, 100	2, 800

AIRCRAFT MACHINERY CORPORATION, BURBANK, CALIF.

Armor Universal Turret Milling Machine, \$1,800, weight 1,485 pounds.

AJAX MANUFACTURING CO., EUCLID BRANCH POST OFFICE, CLEVELAND, OHIO

UPSETTING FORGING MACHINE

Size	Weight	Price	Extra
1".....	Pounds 17, 000	\$9, 650	With side shear.....Add.....135 With back stop.....Add.....150 With rivet attached.....Add.....500 Without dies.....Allow.....150 Without toolholder.....Allow.....100
1½".....	26, 000	12, 600	With side shear.....Add.....185 With back stop.....Add.....200 With rivet attached.....Add.....500 Without dies.....Allow.....225 Without toolholder.....Allow.....150
2".....	37, 000	16, 750	With side shear.....Add.....225 With back stop.....Add.....250 With rivet attached.....Add.....600 With shell dies and tools.....Add.....850 Without dies.....Allow.....300 Without toolholder.....Allow.....200
2½".....	47, 000	20, 000	With side shear.....Add.....250 With back stop.....Add.....300 With rivet attached.....Add.....600 With compressor on header slide.....Add.....700 With shell dies and tools.....Add.....975 Without dies.....Allow.....375 Without toolholder.....Allow.....250
3".....	85, 000	26, 400	With side shear.....Add.....300 With back stop.....Add.....375 With compressor on header slide.....Add.....725 With shell dies and tools.....Add.....1, 100 Without dies.....Allow.....450 Without toolholder.....Allow.....300

AJAX MANUFACTURING CO., EUCLID BRANCH POST OFFICE, CLEVELAND, OHIO—Continued

UPSETTING FORGING MACHINE—Continued

Size	Weight	Price	Extra
4".....	Pounds 134, 000	38, 000	With side shear.....Add.....350 With back stop.....Add.....450 With compressor on header slide.....Add.....750 With shell dies and tools.....Add.....1, 600 Without dies.....Allow.....600 Without toolholder.....Allow.....400
5".....	190, 000	51, 000	With side shear.....Add.....400 With back stop.....Add.....600 With compressor on header slide.....Add.....800 With shell dies and tools.....Add.....2, 100 Without dies.....Allow.....750 Without toolholder.....Allow.....500
6".....	260, 000	73, 500	With side shear.....Add.....450 With back stop.....Add.....750 With compressor on header slide.....Add.....800 With shell dies and tools.....Add.....3, 100 Without dies.....Allow.....900 Without toolholder.....Allow.....600
7".....	375, 000	90, 200	With side shear.....Add.....500 With back stop.....Add.....900 With compressor on header slide.....Add.....1, 000 With shell dies and tools.....Add.....4, 150 Without dies.....Allow.....1, 050 Without toolholder.....Allow.....700
8".....		123, 600	With compressor on header slide.....Add.....1, 000 With shell dies and tools.....Add.....5, 200 Without dies.....Allow.....1, 600 Without toolholder.....Allow.....800

SOLID DIE FORGING MACHINE

Size: 3".....\$29, 800

Motors not included. Extra, long stroke plus 2½%. Extra long stroke and bed plus 10% f. o. b. Cleveland, Ohio. Extra charge for cross tie clamp and extra die height is (inches of extra die height plus 2) x \$100 x size of machine.

FORGING PRESSES

Size	Size
5-C standard speed.....\$13, 800	13-C high speed.....34, 300
5-C high speed.....14, 600	16-C standard speed.....45, 400
7-C standard speed.....18, 600	16-C high speed.....47, 800
7-C high speed.....19, 500	20-C standard speed.....68, 000
10-C standard speed.....24, 400	20-C high speed.....70, 800
10-C high speed.....25, 600	25-C high speed.....80, 600
13-C standard speed.....32, 700	

Motors, bolsters, and dies not included, f. o. b., Cleveland, Ohio.

FORGING ROLLS

Size	Size
No. 0—Spring leaf.....Add.....\$5, 150	
With air clutch and brake.....Add.....150	
With side shear.....Add.....1, 500	
With horizontal front press.....Add.....900	
With vertical side press.....Add.....900	
No. 0—Standard.....Add.....\$1, 500	5, 265
With air clutch and brake.....Add.....150	
With side shear.....Add.....1, 500	
With horizontal front press.....Add.....900	
With vertical side press.....Add.....900	

Motors not included, f. o. b., Cleveland, Ohio.

AJAX MANUFACTURING CO., EUCLID BRANCH POST OFFICE, CLEVELAND, OHIO—Continued

FORGING ROLLS

No.	Size	
No. 1	With air clutch and brakes	\$7,400
	With side shear	Add. \$2,000
No. 2	With air clutch and brake	8,900
	With side shear	Add. 2,500
No. 3	With air clutch and brake	13,100
	With side shear	Add. 3,000
No. 5	Air clutch and brake and side shear included.	39,200
No. 6	Air clutch and side shear included.	62,650

Motors not included, f. o. b., Cleveland, Ohio.

CRANKSHAFT TWISTERS

No.	Size	
No. 1		\$9,500
No. 2		19,250
No. 3		26,000

Motors not included, f. o. b., Cleveland, Ohio.

HOT SAWING BURNING MACHINES

No.	Size	
No. 2		\$3,220
No. 3		3,850

f. o. b., Cleveland, Ohio.

ALBANY HARDWARE SPECIALTY MFG. CO., ALBANY, WIS.

12" high speed friction tool room drill plain belt drive	\$175
Motor drive, without motor or electrical equipment	190

CHAS. G. ALLEN CO., BARRE, MASS.

NO. 2 BELTED SPINDLE

[Type B—hand feed. 8"-12" and 15" overhand—tight and loose pulley drive]

Number of spindles	1	2	3	4	5	6	2 on 3	3 on 5
Price:								
8" overhang	\$410	\$680	\$990	\$1,280	\$1,570	\$1,860	\$740	\$1,110
12" overhang	440	725	1,050	1,355	1,660	1,965	800	1,200
15" overhang	470	790	1,150	1,490	1,830	2,170	900	1,370

NOS. 2 AND 2½ MOTOR SPINDLE—DIRECT OR BACK GEARED

[Type MS—hand feed. Type MSPF—power feed. Type MSCF—cam feed. Type MST—Reversing motor taper—hand controlled—semiautomatic—automatic one to six spindles—8", 12", and 15" overhang. No. 2 has ¾" capacity sliding head and spindle assembly. No. 2½ has 1¼" capacity sliding head and spindle assembly]

Number of spindles	1	2	3	4	5	6	2 on 3	3 on 5
Price:								
8" overhang—No. 2 MS	\$600	\$1,070	\$1,545	\$2,015	\$2,485	\$2,960	\$1,220	\$1,835
12" overhang—No. 2 MS	640	1,140	1,640	2,135	2,635	3,135	1,305	1,965
15" overhang—No. 2 MS	675	1,210	1,750	2,285	2,825	3,365	1,405	2,135
Motor driven coolant system including pump, tank, piping and nozzles	125	135	145	155	165	175	145	165

CHAS. G. ALLEN CO., BARRE, MASS.—Continued

NO. 3 BELTED SPINDLE DIRECT OR BACK GEARED

[Type C—hand feed. Type CPF—power feed. Type CCF—cam feed. 1 to 6 spindles—12" overhang only—1¼" capacity]

	Type C hand feed							
Number of spindles	1	2	3	4	5	6	2 on 3	3 on 5
Price—clutch pulley belt drive	\$800	\$1,415	\$2,035	\$2,705	\$3,325	\$3,945	\$1,660	\$2,575
Coolant system including pump, tank, piping and nozzles	65	80	95	110	125	140	95	125
V-Belt motor drive to back shaft including belts, sheaves and guards; exclusive of motor and starter but includes attaching and wiring same	80	80	100	100	120	120	100	120

NO. 2 KH V-BELT VERTICAL MOTOR DRIVE

[Fractional horsepower. 9 speeds. Hand feed only. 1 to 6 spindles—7" and 12" overhang—¾" capacity]

	Type KH—Hand feed only							
Number of spindles	1	2	3	4	5	6	2 on 3	3 on 5
Price:								
7" overhang	\$420	\$760	\$1,100	\$1,440	\$1,780	\$2,120	\$820	\$1,220
12" overhang	450	815	1,180	1,545	1,910	2,275	890	1,330
Motor-driven coolant system including pump, tank, piping and nozzles	125	135	145	155	165	175	145	165
Each standard T-slot in table	15	18	21	24	27	30	21	27

Prices as given above cover ¼ h. p. standard ball bearing motor, and switch, mounted and wired on each top column, and include "A" section V-belts, sheaves and guard to provide 9 spindle speeds in 1 of 4 ranges. (1) 170—260—390—545—735—1120—1690—2360—3500; (2) 330—440—580—750—1,050—1375—1820—2350—3350; (3) 500—660—870—1150—1500—1950—2580—3510—4800; (4) 770—1000—1270—1575—1840—2380—3020—3760—4360.

SUPER SPEED MACHINES—V-BELT VERTICAL MOTOR DRIVE TO SPINDLE

[Hand feed, power feed, cam feed, reversing spindle taper. Each spindle equipped with ¼ hp. ball bearing motor and switch attached and wired 1 to 6 spindles—8" and 12" overhang—¾" capacity]

	Type HMD drill—hand feed only—4 spindle speeds 1250—1985—3125—4960							
Number of spindles	1	2	3	4	5	6	2 on 3	3 on 5
Bench type—price:								
8" overhang	\$310	\$610	\$910	\$1,210	\$1,510	\$1,810	\$670	\$1,030
12" overhang	340	655	970	1,285	1,600	1,915	720	1,100
Floor type—price:								
8" overhang	400	720	1,040	1,360	1,680	2,000	800	1,200
12" overhang	430	775	1,120	1,465	1,810	2,155	870	1,310
Each standard T slot in table	15	18	21	24	27	30	21	27
Motor driven coolant system including pump, tank, piping and nozzles (floor type only)	125	135	145	155	165	175	145	165

NO. 2 V-BELT VERTICAL MOTOR DRIVE

[Type VB—hand feed. Type VPF—power feed. Type VCF—cam feed. Type VT—tapper—mechanical reverse—semiautomatic. Type VTH—tapper—mechanical reverse—hand controlled. Type VMT—reversing motor taper—hand controlled—semiautomatic—automatic 1 to 6 spindles—8", 12", and 15" overhang—¾" capacity]

	Type VB—hand feed							
Number of spindles	1	2	3	4	5	6	2 on 3	3 on 5
Price:								
8" overhang	\$410	\$680	\$990	\$1,280	\$1,570	\$1,860	\$760	\$1,110
12" overhang	440	725	1,050	1,355	1,660	1,965	810	1,180
15" overhang	470	790	1,150	1,490	1,830	2,170	900	1,330
Motor-driven coolant system including pump, tank, piping and nozzles	125	135	145	155	165	175	145	165
Each standard T-slot in table	15	18	21	24	27	30	21	27

CHAS. G. ALLEN CO., BARRE, MASS.—Continued

NO. 2 AND NO. 2½ HEAVY DUTY V-BELT VERTICAL—MOTOR DRIVE—
DIRECT OR BACK GEARED

[Type MSV—hand feed. Type MSVP—power feed. Type MSVC—cam feed. Type MSVT—reversing motor taper—hand controlled—semiautomatic—automatic 1 to 6 spindles—8", 12", and 18" overhang. No. 2 has ¾" capacity sliding head and spindle assembly. No. 2½ has 1½" capacity sliding head and spindle assembly]

Number of spindles.....	1	2	3	4	5	6	2 on 3	3 on 5
Price:								
8" overhang—No. 2 MSV.....	\$500	\$870	\$1,245	\$1,615	\$1,985	\$2,360	\$1,020	\$1,535
12" overhang—No. 2 MSV.....	540	940	1,340	1,735	2,135	2,535	1,105	1,665
15" overhang—No. 2 MSV.....	575	1,010	1,450	1,885	2,325	2,965	1,205	1,835
Motor-driven coolant system including pump, tank, piping and nozzles.....	125	135	145	155	165	175	145	165
Standard T-slot in table.....	15	18	21	24	27	30	21	27

NO. 3 V-BELT VERTICAL MOTOR DRIVE—DIRECT OR BACK GEARED

[Type VC—hand feed. Type VCPF—power feed. Type VCCF—cam feed. Type VCT—reversing motor taper—semiautomatic—automatic 1 to 6 spindles—12" overhang only—1¼" capacity]

Number of spindles.....	Type VC—hand feed							
	1	2	3	4	5	6	2 on 3	3 on 5
Price.....	\$800	\$1,415	\$2,035	\$2,705	\$3,325	\$3,945	\$1,635	\$2,525
Motor driven coolant system including pump, tank, piping and nozzles.....	125	135	145	155	165	175	145	165

AMERICAN BROACH & MACHINE CO., ANN ARBOR, MICH.

SEMI-AUTOMATIC VP (VERTICAL PULL) BROACHING MACHINES

Machine No.	Net weight	List price	Machine No.	Net weight	List price
VP-3 10-30.....	Pounds 9,660	\$6,580	VP-5 15-48.....	Pounds 16,720	\$8,175
VP-4 15-36.....	14,440	7,850	VP-6 20-48.....	17,610	9,675
VP-4 20-36.....	15,020	9,275	Ring Gear Broaching Machine.....	8,500	5,685

THREE-WAY UNIVERSAL PULL PUSH AND SURFACE BROACHING MACHINES

T-4-24 3-way Broaching Machine.....	4,100	\$2,485	T-6-36 3-way Broaching Machine.....	6,900	\$4,820
T-6-24 3-way Broaching Machine.....	4,300	2,940	T-10-36 3-way Broaching Machine.....	7,750	5,440
T-8-24 3-way Broaching Machine.....	4,600	3,270	I-10-36 3-way Broaching Machine.....	9,150	6,580

STRAIGHTENING PRESSES

15-ton Straightening Press.....	3,500	\$1,860	35-ton Straightening Press.....	6,500	\$2,580
25-ton Straightening Press.....	5,500	2,365	50-ton Straightening Press.....	11,000	2,955

HYDRAULIC PRESSES

V-O (1-ton) bench type with pedestal.....	605	\$575	V-2 (6-ton).....	3,350	\$1,290
V-1 (2-ton).....	1,400	700	V-2 (12-ton).....	3,550	1,545
V-1½ (4-ton).....	1,800	925	V-2 (8-ton) built with adjustable guide ways.....	3,475	1,795

HORNING TYPE PRESSES

2-ton with table.....	2,300	\$1,025	6-ton with table.....	3,750	\$1,675
4-ton with table.....	2,500	1,105	12-ton with table.....	4,350	1,980

AMERICAN BROACH & MACHINE CO., ANN ARBOR, MICH.—Con.

SINGLE SURFACE BROACHING MACHINES

Machine No.	Net weight	List price	Machine No.	Net weight	List price
SB-30-3-ton capacity.....	Pounds 4,800	\$4,840	SB-54-10-ton capacity.....	Pounds 11,300	\$6,940
SB-48-3-ton capacity.....	5,800	5,335	SB-48-15-ton capacity.....	11,200	8,180
SB-42-5-ton capacity.....	8,400	5,850	SB-66-15-ton capacity.....	14,800	9,175
SB-54-5-ton capacity.....	10,800	6,275	SB-48-25-ton capacity.....	13,200	10,795
SB-42-10-ton capacity.....	10,900	6,545	SB-66-25-ton capacity.....	17,300	12,200

SINGLE-DUAL SURFACE BROACHING MACHINES

SB-30-3-2.....	6,300	\$5,520	SB-54-10-2.....	13,300	\$8,140
SB-48-3-2.....	9,300	6,135	SB-48-15-2.....	16,800	9,400
SB-42-5-2.....	9,400	6,765	SB-66-15-2.....	18,800	10,650
SB-54-5-2.....	11,800	7,250	SB-48-25-2.....	19,300	12,375
SB-42-10-2.....	12,400	7,580	SB-66-25-2.....	22,800	14,150

DUPLEX HYDRAULIC SURFACE BROACHING MACHINES

SBD-30-3-ton capacity.....	7,400	\$7,220	SBD-54-10-ton capacity.....	17,200	\$10,400
SBD-48-3-ton capacity.....	8,800	7,965	SBD-48-15-ton capacity.....	26,900	12,260
SBD-42-5-ton capacity.....	12,710	8,815	SBD-66-15-ton capacity.....	31,400	13,750
SBD-54-5-ton capacity.....	16,300	9,425	SBD-48-25-ton capacity.....	29,800	16,180
SBD-42-10-ton capacity.....	14,200	9,810	SBD-66-25-ton capacity.....	38,400	18,285

H-TYPE HORIZONTAL HYDRAULIC BROACHING MACHINES

H-2-30.....	2,500	\$1,540	H-20-60 and outer support table with rear broach carriage.....	9,000	\$5,725
H-6-36 and outer support table with carriage.....	4,050	2,935	H-30-66 outer support table with rear broach carriage and automatic front support.....	13,500	7,320
H-6-48 and outer support table with rear broach carriage.....	5,100	3,455	36-inch rotary surface broaching machine.....	15,400	7,680
H-10-48 and outer support table with broach carriage.....	5,400	3,775	16-inch rotary surface broaching machine with pedestal.....	5,500	3,490
H-15-60 and outer support table with rear broach carriage.....	8,500	4,585			

AMERICAN CHAIN & CABLE CO., BRIDGEPORT, CONN.

Prices and specifications—Campbell nibbling machines

[All prices are net f. o. b. Bridgeport, Conn.]

NO. 0 NIBBLING MACHINE

¾" capacity..... 8" throat

SPECIFICATIONS

[Furnished only with direct motor drive. Be sure to specify current. Standard motor is single phase A. C.]
Equipment includes circle cutting attachment, 1 doz. punches (double end), 3 dies, wrenches, ¼ H. P. G. E. motor, starting switch, and ten-foot extension cord with plug.

PRICES

Bench type.....	\$175.00
Legs, extra.....	20.00
3 phase motor, extra.....	20.00
25 cycle on D. C.....	10.00
Punches, patented (doz.).....	3.50
Dies (doz.).....	2.50

NO. 1 NIBBLING MACHINE

¾" capacity..... 6" throat

SPECIFICATIONS

Equipment includes circle cutting attachment, 1 doz. punches (double end), 1 each sizes "A", "B", and "C" dies, wrenches.

AMERICAN CHAIN & CABLE CO., BRIDGEPORT, CONN.—Continued
Prices and specifications—Campbell nibbling machines—Continued
NO. 1 NIBBLING MACHINES—continued.

PRICES	
Belt drive type.....	\$275
Motor drive type add additional as follows:	
3 phase, 60 cycle, 110, 220, or 440 volts, A. C.....	95
115 or 230 volts, D. C.....	105
Single phase, 60 cycle, 110 or 220 volts, A. C.....	120
(Motor drive includes 1 hp. G. E. motor, motor bracket, starting switch or rheostat, belt and motor pulley.)	

All prices subject to change without notice.

NO. 1-A NIBBLING MACHINE	
$\frac{3}{16}$ " capacity.....	10" throat

PRICES	
Belt drive type.....	\$350
Motor drive, add additional as follows:	
3 phase, 60 cycle, 110, 220, or 440 volts, A. C.....	95
115 or 230 volts, D. C.....	105
Single phase, 60 cycle, 110 or 220 volts, A. C.....	120
(Motor drive includes 1 hp. G. E. motor, motor bracket, starting switch or rheostat, belt and motor pulley. Completely wired and mounted.)	
Motor bracket only (quickly assembled on belt drive type. No machining required).....	20

NO. 1-B NIBBLING MACHINE	
$\frac{3}{16}$ " capacity.....	24" throat

PRICES	
Belt drive type.....	\$550
Motor drive, add additional as follows:	
3 phase, 60 cycle, 110, 220, or 440 volts, A. C.....	100
115 or 230 volts, D. C.....	110
Single phase, 60 cycle, 110 or 220 volts, A. C.....	125
(Motor drive includes 1 hp. G. E. motor, motor bracket, starting switch or rheostat, belt and motor pulley. Completely wired and mounted.)	
Motor bracket only (quickly assembled on belt drive type. No machining required).....	25

 All prices subject to change without notice.
 All prices are Net F. O. B. Bridgeport, Conn.

NO. 2 NIBBLING MACHINE	
$\frac{3}{16}$ " capacity.....	12" throat

SPECIFICATIONS
 Equipment includes circle cutting attachment, 1 doz. punches (double end) 3 dies, wrenches.

PRICES	
Belt drive type.....	\$675
Motor drive, add additional as follows:	
3 phase, 60 cycle, 110, 220, or 440 volts, A. C.....	150
115 or 230 volts, D. C.....	170
Single phase, 60 cycle, 110 or 220 volts, A. C.....	180
(Motor drive includes 1½ hp. G. E. motor, motor bracket, starting switch or rheostat, belt and motor pulley. Completely wired and mounted.)	
Motor bracket only (quickly assembled on belt drive. No machining required).....	30

AMERICAN CHAIN & CABLE CO., BRIDGEPORT, CONN.—Continued
Prices and specifications—Campbell nibbling machines—Continued
NO. 2-B NIBBLING MACHINE

$\frac{3}{16}$ " capacity.....	30" throat
--------------------------------	------------

SPECIFICATIONS

Equipment includes circle cutting attachment, 1 doz. punches (double end 2), dies, wrenches.

PRICES

Belt drive type.....	\$1,200
Motor drive, add additional as follows:	
3 phase, 60 cycle, 110 or 220 volts, A. C.....	150
115 or 230 volts, D. C.....	240
Single phase, 60 cycle, 110 or 220 volts, A. C.....	210
(Motor drive includes 3 hp. G. E. motor, motor bracket, starting switch or rheostat, belt and motor pulley. Completely wired and mounted.)	
Motor bracket only (quickly assembled on belt drive. No machining required).....	30

NO. 3-B NIBBLING MACHINE

$\frac{3}{16}$ " capacity.....	30" throat
--------------------------------	------------

PRICE

Belt drive type.....	\$1,500
----------------------	---------

SPECIFICATIONS

 Equipment included circle cutting attachment. 1 dozen $\frac{3}{16}$ " punches, double end. 1 dozen $\frac{3}{16}$ " punches, double end. Three $\frac{3}{16}$ " dies. Three, $\frac{3}{16}$ " dies. One $\frac{3}{16}$ " collet. One $\frac{3}{16}$ " collet. French curve and wrenches.
 All prices subject to change without notice.

NO. 250 NIBBLING MACHINE

 Capacity $\frac{1}{4}$ "—Mild Steel..... 36" Throat. $\frac{3}{16}$ "—Corrosion-resisting steel.

 Equipment includes: circle cutting attachment—1 dozen $\frac{1}{4}$ " punches—1 each A. B. & C. plain dies—1 each $\frac{1}{4}$ " A. B. & C. line-cutting dies—1 dozen $\frac{1}{2}$ " punches for $\frac{1}{4}$ " stock—1 only $\frac{1}{2}$ " plain die.

Price of #250 Campbell nibbling machine without electrical equipment.. \$1,200

PRICES OF ELECTRICAL EQUIPMENT

Electrical characteristics	Hp.	Motor data		R. p. m.	Frame	Switch	Push button station	Total price electrical equipment
		Bearings	Type					
110 volt-220 volt, 1 ph., 60 cyl., A. C.	2	Ball.....	SCR	1,200	254	CR7006	CR2940	-----
Price.....			\$126			\$30	\$2	\$158
110 volt-220 volt, 1 ph., 50 cyl., A. C.	2	Ball.....	SCR	1,000	254	CR7006	CR2940	-----
Price.....			\$126			\$30	\$2	158
110 volt-220 volt, 440 volt-550 volt, 60 cyl., 3 ph.	2	Ball.....	K	1,200	225	CR7006	CR2940	-----
Price.....			\$59			\$16	\$2	77
110 volt-220 volt, 440 volt-550 volt, 50 cyl., 3 ph.	2	Ball.....	K	1,000	225	CR7006	CR2940	-----
Price.....			\$59			\$16	\$2	77
110 volt-220 volt, 440 volt-550 volt, 25 cyl., 3 ph., A. C.	2	Ball.....	K	1,500	225	CR7006	CR2940	-----
Price.....			\$93			\$16	\$2	111
115 volt-230 volt, D. C.	2	Ball with drip covers	B	1,200	225	CR1003	-----	-----
Price.....			\$138			\$20	-----	158

 Mounting charge if customer supplies his own motor..... \$20
 All prices subject to change without notice.

* Identical in 2-B and 3-B Campbell nibbling machines.

AMERICAN CHAIN & CABLE CO., BRIDGEPORT, CONN.—Continued

SPECIFICATIONS—Continued

NO. 20 CAMPBELL DRY ABRASIVE CUTTING MACHINE

ELECTRICALLY OPERATED ABRASIVE CUTTING MACHINE											
Electrical characteristics	Price of machine without electrical equipment	Electrical equipment					Push button station	Pump switch	Thrustor switch	Price with electrical equipment	
		Motor data									
		Hp.	Bearings	Type	R. p. m.	Frame					Main switch
220 volt 3 ph. 60 cyl. A.C. Price.....	\$595	7½	Ball	KF 97	3,600	254	CR7006 \$30	CR2940 \$2			\$724.00

Mounting charge for customer's electrical equipment—\$20.

NO. 202 CAMPBELL WET ABRASIVE CUTTING MACHINE

220 volt 3 ph. 60 cyl. A.C. Price.....	\$932	7½	Ball	KF	3,600	254	CR7006 \$30	CR2940 \$2	CR1062 \$7.50		\$1,068.50
---	-------	----	------	----	-------	-----	----------------	---------------	------------------	--	------------

Mounting charge for customer's electrical equipment—\$20.

NO. 203 CAMPBELL WET ABRASIVE CUTTING MACHINE

220 volt 3 ph. 60 cyl. A.C. Price.....	\$1,179	7½	Ball	KF	3,600	254	CR7006 \$30	CR2940 \$2	CR1062 \$7.50	CR1062 \$6.50	\$1,322.00
---	---------	----	------	----	-------	-----	----------------	---------------	------------------	------------------	------------

Mounting charge for customer's electrical equipment—\$20.

NO. 212 CAMPBELL WET ABRASIVE CUTTING MACHINE

220 volt 3 ph. 60 cyl. A.C. Price.....	\$1,179	7½	Ball	KF	3,600	254	CR7006 \$30	CR2940 \$2	CR1062 \$7.50		\$1,315.50
---	---------	----	------	----	-------	-----	----------------	---------------	------------------	--	------------

Mounting charge for customer's electrical equipment—\$20.

NO. 213 CAMPBELL WET ABRASIVE CUTTING MACHINE

Electrical characteristics	Price of machine without electrical equipment	Electrical equipment						Push button station	Pump switch	Thrustor switch	Hyd. motor switch	Price with electrical equipment
		Motor data					Main switch					
		Hp.	Bearings	Type	R. p. m.	Frame						
220 volt 3 ph. 60 cyl. A.C. Price-----	\$1,351	7½	Ball	KF	3,600	254	CR7006 \$30	CR2940 \$2	CR1062 \$6.50	CR1062 \$7.50		\$1,494.00

Mounting charge for customer's electrical equipment—\$20.

NO. 302 CAMPBELL HORIZONTAL WET ABRASIVE CUTTING MACHINE

220 volt, 3 ph. 60 cyl. A.C. Price.....	\$2,254	7½	Ball	KF	1,800	284	CR7006 \$30	CR2940 \$2	CR1062 \$7.50	CR1062 \$6.50	\$2,392.00
--	---------	----	------	----	-------	-----	----------------	---------------	------------------	------------------	------------

Mounting charge for customer's electrical equipment—\$25.

NO. 401 CAMPBELL CUTAMATIC WET ABRASIVE CUTTING MACHINE

220 volt, 3 ph. 60 cyl. A.C. Price.....	\$3,163	15	Ball	KF	1,800	326	CR7006 \$30	CR2940 \$2	CR1062 \$7.50	CR1062 \$7.50	\$3,351.00
--	---------	----	------	----	-------	-----	----------------	---------------	------------------	------------------	------------

Mounting charge for customer's electrical equipment—\$35.

AMERICAN CHAIN & CABLE CO., BRIDGEPORT, CONN.—Continued

SPECIFICATIONS—Continued

NO. 0 CAMPBELL TOOL CRIB CUTTER

All items such as special drive or special mounting, where required, are included in machine price. Prices quoted stand firm for a period of 30 days only after which orders will be accepted at prices prevailing at the time order is placed. When customer desires to furnish own electrical equipment, same must agree in all general dimensions with equipment specified on electrical equipment list and must be sent, freight paid, to our factory at Bridgeport, Conn., for mounting.

Electrical characteristics	Price of machine without electrical equipment	Electrical equipment							Price with electrical equipment
		Motor data						Switch	
		Hp.	Bearings	Type	R. p. m.	Frame	Base		
110 or 220 volt, single ph. 60 cyl. A.C., 1,800 r. p. m., 1 hp. Price.....	\$325	1	Ball.....	SCR	1,800	204	204	CR1062	\$378.50
220 or 440 volt, 3 ph. 60 cyl. A.C., 1,800 r. p. m. 1½ hp. Price.....	\$325	1½	Ball.....	K	1,800	224	224	CR1062	\$384.50

Mounting charge for customer's electrical equipment—\$15.

THE AMERICAN TOOL WORKS CO., CINCINNATI, OHIO

Condensed "American" lathe price list

PACEMAKER

Size	Center distance	Weight	Price
14 inches.....	30 inches.....	Pounds 5,200	\$3,350
Add for 2 feet of bed.....		450	120
16 inches.....	30 inches.....	5,400	3,500
Add for 2 feet of bed.....		470	126
18 inches.....	30 inches.....	8,200	4,100
Add for 2 feet of bed.....		600	145
20 inches.....	48 inches.....	8,900	5,200
Add for 2 feet of bed.....		600	180
22 inches.....	48 inches.....	9,200	5,510
Add for 2 feet of bed.....		600	194

HIGH DUTY

24 inches.....	48 inches.....	11,500	\$7,150
Add for 2 feet of bed.....		688	250
27 inches.....	48 inches.....	11,700	7,525
Add for 2 feet of bed.....		688	270
30 inches.....	60 inches.....	17,500	9,560
Add for 2 feet of bed.....		1,092	340
36 inches.....	60 inches.....	18,000	10,100
Add for 2 feet of bed.....		1,092	360

SUPER-PRODUCTIVE

38 inches.....	60 inches.....	28,600	\$12,250
Add for 2 feet of bed.....		1,950	450
42 inches.....	60 inches.....	29,800	13,000
Add for 2 feet of bed.....		1,950	470
48 inches.....	60 inches.....	30,000	14,000
Add for 2 feet of bed.....		1,950	500

THE AMERICAN TOOL WORKS CO., CINCINNATI, OHIO—Con.
Condensed "American" radial prices

Size	Weight	Price	Size	Weight	Price
9 SPEEDS ¹			32 SPEEDS		
9-inch column:	Pounds		13-inch column:	Pounds	
3 foot.....	5,500	\$3,240	4 foot.....	13,300	\$6,908
4 foot.....	5,750	3,430	5 foot.....	13,900	7,300
12 SPEEDS ¹			15-inch column:		
9-inch column:			4 foot.....	14,900	8,025
3 foot.....	5,650	3,590	5 foot.....	15,700	8,353
4 foot.....	5,850	3,780	6 foot.....	16,500	8,675
12 SPEEDS ¹			17-inch column:		
11-inch column:			5 foot.....	18,700	9,550
3 foot.....	8,000	4,800	6 foot.....	19,635	9,956
4 foot.....	8,600	5,100	7 foot.....	20,670	10,300
5 foot.....	9,400	5,400			
6 foot.....	10,000	5,700			

¹ These prices include electrical equipment.

B. C. AMES CO., Waltham, Mass.

AMES BENCH LATHES AND ATTACHMENTS

	Lathe No.		
	3	3	EH3
Collet capacity.....	5/8"	1"	1"
Swing over bed.....	8 3/4"	8 3/4"	8 3/4"
Length of bed.....	36"	36"	36"
Distance between centers, maximum.....	17 1/4"	16 1/4"	17 1/2"
All Ames lathes have back T slots.			
Ames ball bearing open head bench lathe No. 3, including slotted bed for thread chasing attachment, hold-down bolt, nut and washer; open headstock with preloaded ball bearings; drawback spindle and hand wheel; center chuck, drive plate and center; tailstock and center.....	\$325	\$340	
Ames ball bearing enclosed head bench lathe No. EH3, including slotted bed for thread chasing attachment, hold-down bolt, nut and washer; enclosed headstock with preloaded ball bearings; double V belts; drawback spindle and hand wheel; center chuck, drive plate and center; tailstock and center.....			\$425
ATTACHMENTS			
Slide rest, compound, complete with tool post.....	140	140	140
Slide rest, double for forming and cutting off.....	175	175	175
Slide rest, rack and pinion.....	(1)	(1)	(1)
DRIVING EQUIPMENT			
Bench, ABJ-1000, 60" long, 30" wide, 36" high, with wood top, steel drawer; jackshaft underneath drive; cone pulley driving flat belt to open headstock; 220 or 440 volt, 60 cycle, 3 phase, two-speed reversing motor and drum switch, ¹ wired and assembled.....	200	200	
Bench, ABJ-2000, 60" long, 30" wide, 36" high, with wood top, steel drawer; 6-speed ball bearing jackshaft with clutch and brake; 220 or 440 volt, 3 phase, 60 cycle reversing motor with drum switch, ¹ wired and assembled.....	300	300	
Bench, AB-1000, 60" long, 30" wide, 33 1/2" high, with wood top, steel drawer; 6-speed gear transmission; 220 or 440 volt, 60 cycle, 3 phase reversing motor and drum switch, ¹ wired and assembled.....	425	425	
Bench, AEH-1000, 60" long, 30" wide, 36" high, 2 1/4" thick, with wood top, collet and chuck board, light; variable drive with manual speed control and 220 or 440 volt, 3 phase, 60 cycle, 1/2 hp. reversing motor and drum switch, ¹ push button control and magnetic line starter, wired and assembled.....			465
Bench, AEH-2000, 60" long, 30" wide, 36 1/4" high, 2 1/4" thick, with wood top, collet and chuck board, steel drawer, light; 8-speed ball bearing jackshaft with clutch and brake; 220 or 440 volt, 60 cycle, 3 phase, reversing motor with drum switch, ¹ wired and assembled.....			440
Countershaft, two-speed, ball bearing with treadles.....	45	45	
Countershaft, three-speed, ball bearing with treadles.....	50	50	

¹ Price on application.

² Motors and controls of different specifications. Prices on application.

B. C. AMES CO., Waltham, Mass.—Continued

AMES BENCH MILLING MACHINES AND ATTACHMENTS

Ames bench milling machine, with regular equipment including overarm cutter head of 5/8" collet capacity and draw-in spindle; indexing head of 5/8" collet capacity and tailstock; swivel vise with graduated base; 1/2" cutter arbor; necessary wrenches..... \$1,315

Ames bench milling machine, as above, with overarm cutter head of 1" collet capacity and indexing head of 1" collet capacity..... 1,370

Weight of bench milling machine, approximately 325 pounds.

ATTACHMENTS

Cutter head, with overarm, 5/8" capacity..... 260

Cutter head, with overarm 1" collet capacity..... 295

Cutter head, vertical spindle, 5/8" collet capacity..... 300

Cutter head, vertical spindle, 1" collet capacity..... 335

Indexing head, with draw-in spindle, drive plate and center, 5/8" collet capacity..... 280

Indexing head, as above, 1" collet capacity..... 300

Vise, swivel with graduated base..... 95

DRIVING EQUIPMENT

Bench, CB-1000, 32" long, 30" wide, 26 1/4" high, wood top, steel legs; six speed gear transmission; 1/2 hp. reversible motor of 220, 440, or 550 volts, 60 cycle, 3-phase, with switch, endless belts; completely wired and assembled..... 375

Cast iron floor stand, CB-2600, 30" long, 25" wide, 28 1/2" high, six-speed gear transmission, 1/2 hp. motor of 220, 440, or 550 volts, 60 cycle, 3-phase, with switch, endless belts; completely wired and assembled..... 550

Gear transmission, six speeds..... 265

RHODES SHAPERS, SLOTTERS, AND ATTACHMENTS

Rhodes 7" horizontal shaper, motor driven, with swivel knee, swivel vise, wrenches, belts, and wiring; complete..... 565

Rhodes 3 1/2" vertical slotter, motor driven, with swivel knee, plain rotary table, in and out table, wrenches, belts, and wiring; complete..... 700

Rhodes combination shaper and slotter, motor driven, with swivel knee, swivel vise, plain rotary table, in and out table, wrenches, belts, and wiring; complete..... 845

Above prices include 1/2 hp., 3-phase motors of either 220, 440, or 550 volts, and switches. Prices of machines with motors and switches of different specifications quoted on request.

Additional charge for export boxing \$10 net.

SEPARATE ATTACHMENT PRICES

Plain rotary table..... 96

Indexing rotary table with 3 index plates..... 145

In and out table..... 45

Horizontal shaper ram assembly, complete..... 95

Vertical slotter attachment, complete..... 175

Swivel vise with wrench..... 50

MAX AMS MACHINE CO., BRIDGEPORT, CONN.

DOUBLE SEAMERS

Model No.	Price
No. 131-B.....	\$50
No. 172.....	169
No. 168-C.....	358
No. 98-C.....	630
No. 8-R.....	790
No. 248.....	2,575
No. 835-A.....	3,975

MAX AMS MACHINE CO., BRIDGEPORT, CONN.—Continued
DOUBLE STEAMERS—Continued

Model description:	Price
No. 751 mould liner.....	\$180
No. 5-B thread roller.....	583
No. 92 thread roller.....	1,099
No. 126-B press.....	656
No. 321 h. press.....	973
No. 134 inclinable press.....	864
No. 6-S power former.....	165
No. 5-C flanger.....	353

ARMSTRONG-BLUM MFG. CO., 5700 BLOOMINGDALE AVENUE,
CHICAGO, ILL.

MARVEL HACK SAWING MACHINES NOS. 1 AND 2

[Prices and weights: Resale prices net list f. o. b. Chicago, cash terms, 2 percent 10th prox., net thereafter
Capacity: No. 1 saw, 4" x 4"; No. 2 saw, 6" x 6" on long stroke, 8" x 8" on short stroke]

	No. 1 saw 4" x 4"		No. 2 saw 6" x 6"	
	Shipping wt. crated	Price f. o. b. Chicago	Shipping wt. crated	Price f. o. b. Chicago
Belt driven.....	Pounds 140	\$46	Pounds 300	\$79
Motor driven, complete including motor:				
A. C. 110- or 220-volt, 60- or 50-cycle, single-phase.....	225	90	450	185
A. C. 110- or 220-volt, 25- or 30-cycle, single-phase.....	235	97	450	192
D. C. 115- or 230-volt, direct current.....	225	94	450	187
A. C. 220- or 440-volt, 60- or 50-cycle, 3-phase.....	225	93	450	187
A. C. 220- or 440-volt, 25- or 30-cycle, 3-phase.....	235	98	450	192
Portable truck, extra.....	50	15	50	15

MARVEL METAL BAND SAW NO. 8

[Prices and weights: Cash terms, 1 percent 10 days, net 30 days, resale prices net list f. o. b. Chicago]

	No. 8 band saw 18" x 18"	
	Shipping wt. crated	Price f. o. b. Chicago
STANDARD 3-SPEED MACHINES		
(Unless otherwise specified, standard 3-speed machines will always be quoted and furnished, providing 3-blade speeds of 80, 115, 200 blade-feet per minute by means of 3-step cone pulleys on all machines.)		
Belt driven.....	Pounds 2,125	\$1,025
Motor driven, complete including motor:		
A. C. 110, 220, 440, 550 volt; 1, 2, or 3 phase, 60 or 50 cycle.....	2,280	1,165
A. C. 110, 220, 440, 550 volt; 1, 2, or 3 phase, 25 or 30 cycle.....	2,280	1,193
D. C. 115 or 230 volt, direct current.....	2,280	1,228
Arranged for motor drive without motor:		
For A. C. motors only, any voltage, any frequency.....	2,140	1,120
For D. C. 115 or 230 volt motors only.....	2,140	1,142
SPECIAL 6-SPEED MOTOR DRIVEN MACHINES		
(Special 6-speed motor-driven machines are available, equipped with special 2-speed double-winding "Louis Allis" motor, providing 6 blade speeds (through 3-step cone pulleys on all machines) of 40, 58, 80, 100, 115, 200 blade-feet per minute at following prices:)		
Motor driven, complete including special 2-speed motor:		
A. C. 220 volt, 3 phase, 60 cycle.....	2,310	1,227
A. C. 440 or 550 volt, 3 phase, 60 cycle.....	2,310	1,227
(Special 6-speed machines are very desirable for installations in tool rooms and tool-steel stock rooms, as they provide slower-than-standard blade speeds often desired when cutting exceptionally hard materials such as high-carbon high-chrome die steel, treated die steels, stainless steels, etc., without sacrifice of the regular standard high speeds desired for softer alloy and mild steel work.)		
SPECIAL ACCESSORIES		
Special guide roller holders and special rollers to guide the blade at right angles to its normal position or crosswise to the table, for making long cuts through sheets or plates, etc., by hand feeding the stock.....	40	55
Marvel cutting oil, for use on all Marvel sawing machines, furnished in 5-gallon pails only.....	40	5
Marvel band saw blades, 14 7/8" x 3/4" x 0.032" x 6, 8, 10, 12, 14, 18, 24 teeth per inch (12 teeth per inch is standard).....	2	2.90
(Resale price, band-saw blades only, following quantity discounts from list price of \$2.90 each. Quantities 1 to 11 blades, 15 percent; 12 to 47 blades, 20 percent; 48 or more blades, 25 percent.)		

ARMSTRONG-BLUM MFG. CO., 5700 BLOOMINGDALE AVENUE,
CHICAGO, ILL.—Continued

MARVEL HIGH-SPEED LIGHT-DUTY HACK SAWING MACHINE NO. 4B

[Prices and weights: Resale prices net list f. o. b. Chicago, cash terms, 1 percent 10 days, 30 days net.]

	No. 4B saw 6" x 6"	
	Shipping wt. crated	Price f. o. b. Chicago
BELT DRIVEN		
Single speed (without transmission), belt driven, open-leg base.....	Pounds 890	\$242
With 4-speed transmission, belt driven, cabinet base.....	1,090	395
MOTOR DRIVEN, COMPLETE INCLUDING STANDARD SINGLE-SPEED SLEEVE BEARING MOTOR		
Single speed (without transmission), with motor, open-leg base:		
60 or 50 cycle, 220, 440, 550 volt, 3 or 2 phase.....	850	361
25 or 30 cycle, 220, 440, 550 volt, 3 phase.....	870	381
Direct current, 115 or 230 volt.....	870	435
With 4-speed transmission, with motor, cabinet base:		
60 or 50 cycle, 220, 440, 550 volt, 3 or 2 phase.....	1,350	514
25 or 30 cycle, 220, 440, 550 volt, 3 phase.....	1,370	534
Direct current, 115 or 230 volt.....	1,370	588
SPECIAL 2-SPEED MOTOR DRIVEN MACHINE		
2-speed, 60 cycle, 220 volt, 3 phase, with motor, open-leg base.....	900	401
2-speed, 60 cycle, 440 or 550 volt, 3 phase, with motor, open-leg base.....	900	401

MARVEL HIGH-SPEED LIGHT DUTY HACK SAWING MACHINE No. 4B

[Prices and weights: Resale prices net list f. o. b. Chicago, cash terms, 1 percent 10 days net]

	No. 4B saw 6" x 6"	
	Shipping wt. crated	Price f. o. b. Chicago
BASIC AND ACCESSORY PRICES		
(When customer does not specify accessories desired, such as transmission, motor, etc., quote following basic and accessory prices which agree exactly with above complete prices.)		
Belt driven, single speed, open-leg base, without transmission (basic price).....	Pounds 500	\$242
4-speed ball bearing transmission, including cabinet base, extra.....	500	153
Motor drive arrangement, without motor, but including automatic motor starter, push button station, and limit switch for automatic stop; including mounting and wiring if we furnish the motor; but if customer furnishes his own motor and sends to us, an additional charge of \$15 will be made for mounting and wiring:		
For A. C. motors only, extra.....	165	75
For D. C. 115- or 230-volt motors only, extra.....	165	97
Standard motor only, 1 h. p. sleeve bearing, 1,200 r. p. m., 220, 440, 550 volt, 60 or 50 cycle, 2 or 3 phase, extra.....	95	44
(Motors for any other circuit will be furnished at General Electric Co.'s current list price.)		
Special 2-speed motor only, sleeve bearing, 1 h. p. at 1,200 r. p. m. 1/2 h. p. at 600 r. p. m., including 2-speed switch, to provide 2-blade speeds of 149, 75 strokes per minute:		
220 volt, 60 cycle, 3 phase, extra.....	145	84
440 or 550 volt, 60 cycle, 3 phase, extra.....	145	84
Cabinet base (instead of open-leg base), extra.....	300	25

ARMSTRONG-BLUM MFG. CO., 5700 BLOOMINGDALE AVENUE,
CHICAGO, ILL.—Continued

MARVEL HIGH SPEED HEAVY DUTY HACK SAWING MACHINES

[Prices and weights: Resale prices net list f. o. b. Chicago, cash terms, 1 percent 10 days, net 30 days]

	No. 6 saw 6" x 6"		No. 6A saw 6" x 6"	
	Shipping wt. crated	Price f. o. b. Chicago	Shipping wt. crated	Price f. o. b. Chicago
BELT DRIVEN				
Single speed (without transmission), belt driven.....	Pounds 1,260	\$533	Pounds 1,600	\$783
With 4-speed transmission, belt driven.....	1,500	661	1,850	911
MOTOR DRIVEN, COMPLETE INCLUDING MOTOR				
Single speed (without transmission), with motor:				
60 or 50 cycle, 220, 440, 550 volt, 3 or 2 phase.....	1,550	664	1,850	914
25 or 30 cycle, 220, 440, 550 volt, 3 phase.....	1,550	690	1,850	940
Direct current, 115 or 230 volt.....	1,550	746	1,850	996
With 4-speed transmission, with motor:				
60 or 50 cycle, 220, 440, 550 volt, 3 or 2 phase.....	1,750	792	2,050	1,042
25 or 30 cycle, 220, 440, 550 volt, 3 phase.....	1,750	815	2,050	1,068
Direct current, 115 or 230 volt.....	1,750	874	2,050	1,124
BASIC AND ACCESSORY PRICES				
(When customer does not specify accessories desired, such as transmission, motor, etc., quote following basic and accessory prices which agree exactly with above complete prices.)				
Belt driven, single speed, without transmission (basic price)....	1,260	533	1,600	783
4-speed ball bearing transmission, extra.....	200	128	200	128
Motor drive arrangement, without motor, but including automatic starter, push button station, and limit switch for automatic stop. \$15 additional charge for mounting and wiring motor if customer furnishes motor:				
For A. C. motors only, extra.....	200	75	200	75
For D. C. 115 or 230 volt motors only, extra.....	200	97	200	97
Motor only, 1 1/4 h. p. for Nos. 6 and 6A, ball bearing, 1,200 r. p. m., 220, 440, 550 volt, 60 or 50 cycle, 2 or 3 phase, extra.....	100	56	100	56
SPECIAL EQUIPMENT				
New style heavy duty bar push-up 12 ft. long.....			435	135
Additional 8 ft. track.....			255	17
Stock stands and track equipment, including 4 stands, 2 rollers, 2 traveling vises, and 2 track bars 12 ft. long (extra for No. 6, included with No. 6A and No. 9A).....	300	90	inc.	inc.
One pair special nest clamps and quick action toggle gauge, for holding and end-gauging a nest of small bars, extra.....	20	20	20	20
Special blade holder for 12" blades, extra.....	5	5	2	5

	No. 9 saw 10" x 10" No. 9A saw 10" x 10"		No. 9 saw 10" x 10" No. 9A saw 10" x 10"	
	Shipping weight	Price f. o. b. Chicago	Shipping weight	Price f. o. b. Chicago
BELT DRIVEN				
Single speed (without transmission), belt driven.....	Pounds 1,470	\$853	Pounds 2,150	\$1,153
With 4-speed transmission, belt driven.....	1,720	981	2,380	1,281
MOTOR DRIVEN, COMPLETE INCLUDING MOTOR				
Single speed (without transmission), with motor:				
60 or 50 cycle, 220, 440, 550 volt, 3 or 2 phase.....	1,750	\$900	2,400	1,290
25 or 30 cycle, 220, 440, 550 volt, 3 phase.....	1,750	1,023	2,400	1,323
Direct current, 115 or 230 volt.....	1,750	1,085	2,400	1,385
With 4-speed transmission, with motor:				
60 or 50 cycle, 220, 440, 550 volt, 3 or 2 phase.....	1,950	1,118	2,600	1,418
25 or 30 cycle, 220, 440, 550 volt, 3 phase.....	1,950	1,151	2,600	1,451
Direct current, 115 or 230 volt.....	1,950	1,213	2,600	1,513
BASIC AND ACCESSORY PRICES				
(When customer does not specify accessories desired, such as transmission, motor, etc., quote following basic and accessory prices which agree exactly with above complete prices.)				
Belt driven, single speed, without transmission (basic price)....	1,470	853	2,150	1,153

ARMSTRONG-BLUM MFG. CO., 5700 BLOOMINGDALE AVENUE,
CHICAGO, ILL.—Continued

MARVEL HIGH SPEED HEAVY DUTY HACK SAWING MACHINES

	No. 9 saw 10" x 10" No. 9A saw 10" x 10"		No. 9 saw 10" x 10" No. 9A saw 10" x 10"	
	Shipping weight	Price f. o. b. Chicago	Shipping weight	Price f. o. b. Chicago
4-speed ball-bearing transmission, extra.....				
Motor-drive arrangement, without motor, but including automatic starter, push-button station, and limit switch for automatic stop. \$15 additional charge for mounting and wiring motor if customer furnishes motor:				
For A. C. motors only, extra.....	200	75	200	75
For D. C. 115- or 230-volt motors only, extra.....	200	97	200	97
Motor only, 2 h. p. for Nos. 9 and 9A; ball bearing, 1,200 r. p. m., 220, 440, 550 volt, 60 or 50 cycle, 2 or 3 phase, extra.....	100	62	100	62
SPECIAL EQUIPMENT				
New style heavy-duty bar push-up, 12 ft. long.....			435	150
Additional 8 ft. track.....			255	17
Stock stands and track equipment, including 4 stands, 2 rollers, 2 traveling vises, and 2 track bars 12 ft. long (extra for No. 9, included with 1 No. 9A).....	630	125	inc.	inc.
1 pair special nest clamps and quick action toggle gauge, for holding and end-gauging a nest of small bars, extra.....	20	20	20	20
Special blade holder for 14" blades, extra.....	3	6	3	6

ARTER GRINDING MACHINE CO, WORCESTER, MASS.

	Weight (pounds)	Price
A-1-8"..... Rotary surface grinder.....	2,950	\$2,925
A-1-12"..... do.....	3,050	3,265
A-3-12"..... do.....	4,100	3,840
A-3-16"..... do.....	4,350	4,150
B-20"..... do.....	7,600	7,670
B-30"..... do.....	8,400	8,260
B-40"..... do.....	9,700	9,760
C-12"..... do.....	5,800	6,180
C-16"..... do.....	6,000	6,350
D-12"..... do.....	5,000	4,500
2-B..... Automatic piston ring grinder.....	2,800	3,275

Above prices are for machines arranged for motor drive but without motor or starting equipment.

AUTOMATIC MACHINERY MFG. CORP., BRIDGEPORT, CONN.

Description	Price
Coulter diamond tool boring machine:	\$2,800
"B-B".....	4,250
A-121.....	3,610
Coulter open side shaper planer:	3,860
Crank type P-10.....	3,610
Crank type P-12.....	3,875
Hydraulic type PH-10.....	4,150
Hydraulic type PH-12.....	
Hydraulic type PH-14.....	

AUTOMATIC MACHINERY MFG. CORP., BRIDGEPORT, CONN.—Con.

Description	Price
13" LE enclosed head automatic threading lathe, size:	
6'	\$3,995
8'	4,340
10'	4,595
12'	5,050
14'	5,500
16'	5,975
18'	6,450
20'	6,950
U6 HOB thread milling:	
14" x 16"	4,725
14" x 20"	5,175
14" x 40"	5,400
14" x 60"	5,575
A-140 horizontal variable speed profile and cam milling.	8,250
12E is single spindle hand profile milling.	
H. P. hand profiling and vertical milling.	
SL-2 scroll cutting lathe.	5,675

AUTOMETRIC MACHINE TOOL COMPANY, BERKELEY, CALIF.

	Weight (pounds)	Base price
Autometric Universal Jig Boring, Layout, and Inspection Machine.	2,700	\$4,325
Autometric Horizontal Universal Precision Boring Machine.	2,600	4,090

THE AVEY DRILLING MACHINE CO., CINCINNATI, OHIO

BELTED-AVEY—COLUMN TYPE

Size	Overhang	1-spindle	2-spindle	3-spindle	4-spindle	6-spindle
No. 14	Inches 6 1/4	\$350	\$615	\$880	\$1,145	\$1,675
No. 12 heavy	6 1/4	375	660	945	1,230	1,800
No. 11 1/2	7 1/2	475	820	1,165	1,610	2,195
No. 1	7 1/2	435	710	1,015	1,320	1,930
No. 2	7 1/2	465	765	1,095	1,430	2,100
No. 2	12	495	835	1,175	1,540	2,240
No. 2	15	540	915	1,300	1,695	2,465
No. 3	12	780	1,400	2,020	2,650	3,900

Size	Overhang	1-spindle	Size	Overhang	1-spindle
TOOL ROOM	Inch 7 1/2	\$500	No. 2 round table tool room drill.	Inch 12	\$670
No. 1	7 1/2		No. 3 round table	12	950

MOTOR-AVEY—8 SPEEDS—TYPE MA 8

Size	Overhang	1-spindle	2-spindle	3-spindle	4-spindle	6-spindle
No. 1 bench	6 1/4	\$440	\$825	\$1,210	\$1,595	\$2,365
No. 1 column	6 1/4	505	920	1,330	1,745	2,575

MOTOR-AVEY—6 SPEEDS—TYPE MA 6

Size	Overhang	1-spindle	2-spindle	3-spindle	4-spindle	6-spindle
No. 1	7 1/2	\$805	\$1,080	\$1,555	\$2,030	\$2,980
No. 2	7 1/2	665	1,195	1,725	2,255	3,325
No. 2	12	725	1,300	1,875	2,450	3,600
No. 2	15	760	1,375	1,990	2,610	3,840
No. 3	12	1,070	1,990	2,910	3,830	5,670

THE AVEY DRILLING MACHINE CO., CINCINNATI, OHIO—Continued

MOTOR-AVEY—1 SPEED—TYPE MA 1

Size	Overhang	1-spindle	2-spindle	3-spindle	4-spindle	6-spindle
No. 2	7 1/2	\$565	\$995	\$1,425	\$1,855	\$2,725
No. 2	12	625	1,100	1,675	2,050	3,000
No. 2	15	660	1,175	1,690	2,210	3,240
No. 3	12	960	1,770	2,680	3,390	5,010

MOTOR-AVEY—2 SPEEDS—TYPE MA 2

Size	Overhang	1-spindle	2-spindle	3-spindle	4-spindle	6-spindle
No. 2	7 1/2	\$615	\$1,095	\$1,575	\$2,055	\$3,025
No. 2	12	675	1,200	1,725	2,250	3,300
No. 2	15	710	1,275	1,840	2,410	3,540
No. 3	12	1,010	1,870	2,730	3,590	5,310

	No. 1	No. 2	No. 3
Aveymatic feed per spindle	\$180	\$200	\$275
Plain power feed per spindle	120	180	190
Friction type tapping attachment	130	130	
Back gear tapping attachment	270		300
No. 2 tapping unit on column			400
No. 3 tapping and drilling head			

AXELSON MANUFACTURING CO., LOS ANGELES, CALIF.

AXELSON 24-SPEED SELECTIVE TYPE GEARED HEAD HEAVY DUTY ENGINE LATHES WITH DIRECT MOUNTED 220 V, 3 PH. 60-CYCLE MOTORS INCLUDED

Size	Weight of base length	Price	Extra per 2' of bed	Size	Weight of base length	Price	Extra per 2' of bed
14" x 6'	Pounds 4,150	\$3,235	\$110	24" x 10'	Pounds 14,650	\$8,980	\$245
16" x 8'	5,100	3,588	121	30" x 10' 1/2	15,250	7,607	245
18" x 8'	8,000	4,150	140	32" x 10'	17,300	10,338	345
20" x 8'	9,000	5,103	170				

1 The 30" lathe no longer made as the 32" has taken its place.

THE BAIRD MACHINE COMPANY, STRATFORD, CONN.

SINGLE ACTION OPEN BACK BENCH POWER PRESSES

	Plain machine
Size 1	\$220
Motor-drive arrangement	35
Mounting motor and starter	10
Iron table and legs	25
Back roll feed attachment	110
Side roll feed attachment	110
Size 2	345
Motor-drive arrangement	42
Mounting motor and starter	10.50
Iron table and legs	31
Back roll feed attachment	160
Side roll feed attachment	180

THE BAIRD MACHINE COMPANY, STRATFORD, CONN.—Continued

HEAVY PATTERN SINGLE ACTION OPEN BACK PRESSES

	Plain machine
Size 2.....	\$625
Motor drive arrangement.....	130
Mounting motor and starter.....	13.50
Back roll feed attachment.....	260
Side roll feed attachment.....	300
Size 3.....	770
Motor-drive arrangement.....	150
Mounting motor and starter.....	15
Back roll feed attachment.....	285
Side roll feed attachment.....	320
Size 4.....	1,120
Motor-drive arrangement.....	175
Mounting motor and starter.....	16
Back roll feed attachment.....	325
Side roll feed attachment.....	340
Size 5.....	1,530
Motor-drive arrangement.....	220
Mounting motor and starter.....	16
Back roll feed attachment.....	400
Side roll feed attachment.....	410
Standard 7" six-spindle Horizontal Automatic Lathe, Price.....	\$10,600
Automatic four-spindle continuous Vertical, Price.....	\$9,900

BAKER BROTHERS INC., TOLEDO, OHIO

MECHANICAL FEED

Type	Capacity	Length of feed	Approximate weight	Price
	Inches	Inches	Pounds	
No. 121 single purpose.....	1 1/2	11	2,400	\$1,370
No. 121 single purpose.....	1 1/2	15	2,500	1,525
No. 121 quick change.....	1 1/2	11	2,500	1,085
No. 121 quick change.....	1 1/2	15	2,700	1,885
217 single purpose.....	2	12	2,950	1,875
321 single purpose.....	3	16	4,100	2,600
321 single purpose.....	3	20	4,400	2,900
422 single purpose.....	4	16	4,900	3,195
314 quick change*.....	3	16	4,900	3,550

HYDRAULIC FEED (PICK OFF GEAR TYPE) (SINGLE SPINDLE TYPE)

	Capacity	Length of feed	Approximate weight	Price
	Inches	Inches	Pounds	
16-HO.....	2	16	7,000	\$3,190
26-HO.....	3	16	7,800	3,645
36-HO.....	5	16	12,400	4,985

HYDRAULIC FEED (SIMPLIFIED TYPE FOR MULTIPLE HEAD APPLICATION)

	Capacity	Length of feed	Approximate weight	Price
	Horsepower	Inches	Pounds	
20-HO.....	Up to 15	16	6,500	\$2,795
30-HO.....	Up to 25	16	10,000	4,025
60-HO.....	Up to 30	16	12,000	5,365
75-HO.....	Up to 40	16	14,300	7,335

HYDRAULIC FEED (UNIVERSAL QUICK CHANGE TYPE) (SINGLE SPINDLE TYPE)

	Capacity	Length of feed	Approximate weight	Price
	Inches	Inches	Pounds	
10-HO.....	1 1/2	16	7,400	\$3,390
20-HO.....	2 1/2	16	8,200	4,190

BAKER BROTHERS INC., TOLEDO, OHIO—Continued

HYDRAULIC FEED (EXTRA HEAVY DUTY WORM AND WORM GEAR TYPE DRIVE)

Type	Capacity	Length of feed	Approximate weight	Price
	Horsepower	Inches	Pounds	
30-HO-4.....	Up to 30	16	14,500	\$6,525
60-HO-4.....	Up to 40	16	16,000	8,065

HYDRAULIC FEED UNITS

	Capacity	Length of feed	Approximate weight	Price
	Up to 5	12	1,000	\$1,355
5A12*.....	Up to 7 1/2	14	1,150	1,530
7 1/2A14.....				

CAM FEED UNIT

	Capacity	Length of feed	Approximate weight	Price
	Up to 5	6	1,100	\$1,090
No. 2C*.....				

CONTOUR GRINDER

	Capacity	Length of feed	Approximate weight	Price
	Inches			
No. 3.....	1/4 to 4 dia.		950	\$900

KEYSEATERS

	Capacity	Length of feed	Approximate weight	Price
	Up to 1	Up to 9	1,975	\$1,343
No. 0.....	Up to 1 1/2	Up to 12	2,700	2,160
No. 1.....				2,931
No. 2 arr. for motor drive without bars and cutters.....				3,273
No. 2 arr. for motor drive with bars and cutters.....				

*Denotes price correction advised by manufacturer. Prices differ from those shown in 1st edition of New Machine Tools.

THE BAKEWELL MANUFACTURING COMPANY, LOS ANGELES, CALIF.

PRECISION TAPPING MACHINE

	Capacity	Length of feed	Approximate weight	Price
	Inches	Inches	Pounds	
No. 1.....	\$1,350	No. 1—Right hand.....		\$22.50
No. 2.....	\$3,250	No. 1—Left hand.....		27.50
		No. 2—Right hand.....		27.50
		No. 2—Left hand.....		35.00

BARBER-COLMAN CO., ROCKFORD, ILL.

HOBBIING MACHINES

PRICES AND SPECIFICATIONS

Model No.	Capacity, face	Capacity, diameter	Net weight	Base price ¹
	Inches	Inches	Pounds	
"A"—standard length.....	12	12	5,725	\$4,400
"D".....	14	14	9,500	8,000
"S".....	1 1/2	1	350	2,200
"T".....	10	13	8,500	7,150
"V".....	9	8	9,000	8,250
#3 standard.....	7	5	1,700	2,300
#3 precision.....	7	5	1,700	2,850
Model	Capacity, face	Capacity, diameter	Net weight	Base price ¹
	Inches	Inches	Pounds	
No. 3 hob sharpening machine.....			2,800	\$3,100
No. 4 hob sharpening machine.....			4,400	6,050
Combination sharpening machine.....			2,550	3,200
Reamer sharpening machine.....			3,500	4,500

¹ Price corrections advised by manufacturer. Prices differ from those shown in first edition of "prices of new machine tools."

BARBOUR STOCKWELL COMPANY, 205 BROADWAY, CAMBRIDGE, MASS.
BEAUDRY CHAMPION

Size of hammer.....	100-pound	150-pound	300-pound	500-pound
Weight of ram, lbs.....	100.....	150.....	300.....	500.....
Estimated force of blow, lbs.....	600.....	900.....	1,800.....	3,000.....
Lift of ram, inches.....	8.....	9.....	11½.....	13.....
Will work stock, inches.....	2¼.....	3.....	4½.....	6.....
Size of dies, inches.....	3¼ x 7.....	3½ x 7.....	4½ x 10½.....	6½ x 12.....
Height to center of shaft.....	6'0".....	6'0".....	7'0".....	7'7".....
Floor space, inches.....	2'3" x 3'8".....	2'3" x 4'.....	2'11" x 4'6".....	4' x 4'10".....
Speed of hammer.....	275.....	230.....	200.....	175.....
Size of pulley, belt-drive.....	16 x 6.....	17 x 6½.....	19 x 6.....	22 x 7.....
Size of pulley, motor-drive.....	16 x 4½.....	19 x 5.....	22 x 6½.....	22 x 7.....
Approx. diam. motor pulley, inches.....	5.....	5¼.....	5½.....	5¾.....
Approx. hp. motor.....	5.....	5.....	7½.....	10.....
Approx. speed of motor, r. p. m.....	830.....	830.....	800.....	750.....
Approx. wgt., belt-driven.....	3,000.....	3,700.....	5,400.....	9,000.....
Approx. wgt., motor-driven.....	3,600.....	4,200.....	6,000.....	9,700.....
Price, belt-driven.....	\$250.....	\$250.....	\$1,850.....	\$1,850.....
Price, arranged for motor.....	\$275.....	\$1,125.....	\$1,500.....	\$2,100.....

BEAUDRY UTILITY

Size of hammer.....	25-pound	50-pound	100-pound
Weight of ram, lbs.....	25.....	50.....	100.....
Lift of ram.....	6".....	8".....	10".....
Will work stock.....	1½" sq.....	2" sq.....	3" sq.....
Number of blows per minute.....	400.....	350.....	300.....
Size of dies.....	2 x 3".....	2 x 3½".....	2½ x 5".....
Size of pulley.....	3½ x 10".....	4 x 12".....	5 x 16".....
Height over all.....	60".....	68".....	76".....
Floor space.....	16 x 21".....	20 x 24".....	24 x 28".....
Horse power.....	1 hp.....	2 hp.....	3 hp.....
Speed of motor, r. p. m.....	1,200.....	1,200.....	1,200.....
Approx. shipping weight.....	850 lbs.....	1,500 lbs.....	2,500 lbs.....
Price, belt-driven.....	\$150.....	\$255.....	\$450.....
Price, arranged for motor.....	\$170.....	\$255.....	\$470.....

¹ At full speed.

BARDONS & OLIVER, INCORPORATED, CLEVELAND, OHIO

[Prices include motor and controls]

Model No.	Maximum capacity (diameter)	Swing	Prices	
			Without automatic chuck and bar feed	With automatic chuck and bar feed
1.....	1".....	13½".....	\$1,665.....	.....
2.....	1½".....	15½".....	2,263.....	\$2,585.....
3.....	2".....	18".....	2,800.....	3,324.....
4.....	2½".....	21½".....	3,366.....	3,801.....
5.....	3".....	24".....	3,949.....	4,461.....

¹ Model No. 1 discontinued about September 1, 1939. Price shown was in effect at that time.

Compare old style machines as shown below

Old	to	New
No. 2		2
No. 4		3
No. 7		5
No. 9		7

BARNES DRILL CO., ROCKFORD, ILL.
DRILLING MACHINES

Machine	Net weight	Base price
	Pounds	
20" box column single spindle drill.....	each.....	\$1,190
20" box column gang drill.....	per spindle.....	1,255
20½" box column single spindle drill.....	each.....	1,435
20½" box column gang drill.....	per spindle.....	1,535
21½" box column single spindle drill.....	each.....	2,080
21½" box column gang drill.....	per spindle.....	2,405
22½" box column single spindle drill.....	each.....	2,560
22½" box column gang drill.....	per spindle.....	2,645
24½" box column single spindle drill.....	each.....	2,825
24½" box column gang drill.....	per spindle.....	1,060
26½" box column single spindle drill.....	each.....	1,165
26½" box column gang drill.....	per spindle.....	1,615
28½" box column single spindle drill.....	each.....	1,750
28½" box column gang drill.....	per spindle.....	1,735
30½" box column single spindle drill.....	each.....	3,485
30½" box column gang drill.....	per spindle.....	4,890
H-2 Hydram drilling machine (one speed).....	do.....	7,140
H-3 Hydram drilling machine (one speed).....	do.....	
H-4 Hydram drilling machine (one speed).....	do.....	

¹ These machines temporarily withdrawn from market.

HONING MACHINES

Machine	Net weight	Base price
	Pounds	
152 mechanically reciprocated vertical honing machine.....	each.....	\$1,295
172 hydraulically reciprocated vertical honing machine.....	do.....	1,825
172 hydraulically reciprocated vertical honing machine.....	do.....	3,000
224 hydraulically reciprocated vertical honing machine.....	do.....	4,530
240 hydraulically reciprocated vertical honing machine.....	do.....	3,345
306-H hydraulically reciprocated vertical honing machine.....	do.....	3,595
366-H hydraulically reciprocated vertical honing machine.....	do.....	3,895
366-C hydraulic combined fine boring and honing machine.....	do.....	4,130
2610 hydraulically reciprocated vertical honing machine.....	do.....	7,965
2420 hydraulically reciprocated vertical honing machine.....	do.....	10,100
2610 hydraulically reciprocated vertical honing machine.....	do.....	11,700
2420 hydraulically reciprocated vertical honing machine.....	do.....	17,545
4020 hydraulically reciprocated vertical honing machine.....	do.....	21,175
4030 hydraulically reciprocated vertical honing machine.....	do.....	
214 hydraulically reciprocated vertical multiple spindle honing machine, not including auxiliary head.....	each.....	8,760
No. 2 x 6' travel hydraulically reciprocated horizontal internal honing machine.....	each.....	8,885
Extra cost for additional travel per each additional 2 feet or fraction thereof.....	do.....	365
No. 6 x 8' travel hydraulically reciprocated horizontal internal honing machine.....	each.....	12,165
Extra cost for additional travel per each additional 2 feet or fraction thereof.....	do.....	425
No. 12 x 10' travel hydraulically reciprocated horizontal internal honing machine.....	each.....	20,600
Extra cost for additional travel per each additional 2 feet or fraction thereof.....	do.....	605
No. 20 x 12' travel hydraulically reciprocated horizontal internal honing machine.....	each.....	32,670
Extra cost for additional travel per each additional 2 feet or fraction thereof.....	do.....	910
No. 30 x 16' travel hydraulically reciprocated horizontal internal honing machine.....	each.....	48,400
Extra cost for additional travel per each additional 2 feet or fraction thereof.....	do.....	1,210
No. 5 x 10' travel hydraulically reciprocated horizontal external honing machine.....	each.....	11,900

BARRETT MACHINE TOOL CO., MEADVILLE, PA.
HORIZONTAL BORING MILL

	Arranged with D. C. drive	Arranged with A. C. drive	Arranged with D. C. drive	Arranged with A. C. drive
Type "O"-3" bar.....	\$8,850.....	\$10,350.....	Type #5-7" bar.....	\$18,450.....
Type #1-3¼" bar.....	9,750.....	11,250.....	Type #6-8" bar.....	22,050.....
Type #2-3" bar.....	11,250.....	13,050.....	Type #7-8" bar.....	27,000.....
Type #3-6" bar.....	14,850.....	16,650.....		
Type #2-pipe facing machine.....				114,850.....
Type #3-3-way facing machine.....				119,341.....

¹ Without motor equipment, but arranged with A. C. motor drive.

CYRIL BATH & COMPANY, CLEVELAND, OHIO

PRICES ON STURDYBENDER BENDING PRESSES

Size	Capacity	Price	Extra per ft. extension of bed and ram	Extra for add'l inch stroke, or fraction	Horsepower and price main drive elec. equip.
AA-4	3' x 10 ga.	\$2,075	\$45		\$70, 1½ hp.
AA-5	4' x 12 ga.	2,175			
A3-4	4' x 3½"	3,100			
A3-5	5' x 9 ga.	3,220			
A3-6	6' x 10 ga.	3,350	55	\$200	70, 1½ hp.
A3-8	8' x 12 ga.	3,600			
B3-4	4' x 14"	3,620			
B3-6	6' x 16"	3,755			
B3-8	8' x 18"	3,980	65	200	114, 5 hp.
B3-10	10' x 11 ga.	4,150			
C3-6	6' x 14"	4,330			
C3-8	8' x 16"	4,480			
C3-10	10' x 10 ga.	4,675	80	200	114, 5 hp.
C3-12	12' x 11 ga.	5,165			

All prices are f. o. b. cars at factory, Cleveland, Ohio.
 Standard equipment (models A, B, C): Ram adjustment motor and control, for 220/440 volt, 60-cycle, 3-phase, micrometer dial gauge, ram adjustment limit gauges, dual Madison-Kipp automatic pressure lubricating system, plain filler block, necessary wrenches, ram arranged for taper work, main drive arranged for Vee Belt motor drive with pulley and belts furnished, but without main drive motor or control. Model AA is arranged for grease lubrication, but otherwise has same standard equipment.
 Extra for geared 2-speed attachment (for models B and C only), with safety overload clutch, to give speeds of 10 and 30 strokes per minute, or any other reasonable ratio, \$500.
 Motor prices are for an 1800 r. p. m., flywheel type, high slip, ball bearing, punch press motor with drum type "Forward-Reverse" control.
 Extra for wiring and mounting main motor and control, if not purchased from us, but sent to us for mounting, \$25.
 Extra for full length, single hand control backgauge, \$225.
 Extra for full length, motor operated backgauge, for operation on 220 or 440 volt, 60-cycle, 3-phase, \$330.
 Prices on special machines, additional shut height, dies, punching attachments, etc., may be had on application.

BAUSH MACHINE TOOL COMPANY, SPRINGFIELD, MASS.

NEW "W" TYPE HYDRAULIC MACHINES

	W-8 type	W-7 type	W-6 type
Capacity.....	20 to 30 hp.	15 to 20 hp.	5 to 10 hp.
Weight, approx.....	29,000 pounds	17,000 pounds	12,000 pounds
Base price, with low C. I. bed.....	\$3,340	\$3,816	\$4,546
Base price, with high welded steel bed.....	3,652	4,216	5,312
2-speed change gear yoke.....	506	466	365
Electric control panel.....	413	413	333
Arranged for tapping.....	366	366	366

Add to above prices: adjustable heads shown below.

	Checkerboard ball bearing heads	Plain bearing heads
20" x 52" rectangular.....	\$1,650	\$1,430
20" x 37" rectangular.....	1,362	1,180
20" x 30" rectangular.....	1,208	1,117
18" x 36" rectangular.....	1,298	1,117
16" x 30" rectangular.....	1,041	894
16" x 24" rectangular.....		745
32" round.....		1,165
24" round.....		938
20" round.....		911
16" round.....		902

BAUSH MACHINE TOOL COMPANY, SPRINGFIELD, MASS.—Con.

NEW "W" TYPE HYDRAULIC MACHINES—Continued

To above prices add the undernoted prices for size and number of adjustable spindles required.

Size (diameter).....	¾"	¾"	1"	1¼"	1½"	1¾"	2"	2½"	3"
Price each.....	\$49	\$51	\$55	\$60	\$74	\$99	\$114	\$173	\$266

Price for Double deck skeleton fixed center support plate:..... \$160
 For 16 x 24 Head bored for slip sleeve spindles..... 180
 For 20 Head bored for slip sleeve spindles..... 250
 For 20 x 37 Head bored for slip sleeve spindles.....
 Add to above plate prices \$14 per hole bored according to number of spindles required; when 6 bored holes or under special price.

	Extras	Rotating tables
Box tables		
16 x 30 x 18.....	\$106	18 diameters with 3 stations..... \$388
24 x 24 x 20.....	120	24 diameters with 3 stations..... 473
20 x 30 x 18.....	139	34 diameters with 3 stations..... 775
20 x 30 x 18.....	180	44 diameters with 3 stations..... 862
30 x 30 x 20.....	202	50 diameters with 3 stations..... 1,020
24 x 42 x 20.....	278	Additional stations..... \$18 each
30 x 36 x 20.....	332	
30 x 46 x 20.....	360	Adjustable knee table for W-6..... \$580
30 x 48 x 20.....	519	Adjustable knee table for W-7..... 825
30 x 72 x 20.....		

BEATTY MACHINE & MFG. CO., HAMMOND, IND.

NO. 2 QUICK-ACTING SINGLE-END PUNCH

Punches.....	½" x ½"
Shears bars.....	3" x ½" flats—1" rounds
Shears angles.....	1½" x 1¼" x ¼"
Splits plates.....	¾"

Throat	Weight	Price	Throat	Weight	Price
	Pounds			Pounds	
12".....	2,800	\$303	30".....	4,500	\$1,200
15".....	3,200	987	36".....	5,000	1,376
18".....	3,550	1,030	42".....	5,500	1,491
24".....	4,100	1,138	48".....	6,000	1,600

Extra for motor connections..... \$81
 Extra for motor and starter..... 83

NO. 5 SINGLE- AND DOUBLE-END PUNCHES AND SHEARS

Punches.....	¾" x ¾"
Shears bars.....	5" x ¾" flats—1½ h. p.
Angles.....	4" x 4" x ¼"
Splits plate.....	¾"

SINGLE END

Throat	Weight	Price	Throat	Weight	Price
	Pounds			Pounds	
12".....	5,800	\$1,760	36".....	10,200	\$2,557
15".....	6,000	1,859	42".....	13,000	3,089
20".....	7,800	2,017	48".....	14,500	3,320
25".....	8,400	2,212	54".....	16,500	3,724
30".....	9,600	2,412	60".....	18,300	4,000

DOUBLE END

Throat	Weight	Price	Throat	Weight	Price
	Pounds			Pounds	
12".....	8,800	\$3,257	20".....	14,200	\$3,765
15".....	9,500	3,472	25".....	15,200	4,130

BEATTY MACHINE & MFG. CO., HAMMOND, IND.—Continued

NO. 5 SINGLE- AND DOUBLE-END PUNCHES AND SHEARS

30"	17,900	\$4,470	48"	26,800	\$6,240
36"	19,700	4,810	54"	31,800	7,050
42"	24,700	5,700	60"	34,700	7,520

NO. 6 SINGLE- AND DOUBLE-END PUNCHES AND SHEARS

Punches	1" x 1"
Shears flats	6" x 1"
Shears rounds	1 1/2"
Shears angles	6" x 6" x 1/4"
Splits plates	7/8"

SINGLE END

Throat	Weight	Price	Throat	Weight	Price
15"	Pounds		42"	Pounds	
20"	9,200	\$2,008	48"	17,500	\$3,530
25"	10,500	2,160	54"	19,000	3,830
30"	11,600	2,400	60"	20,900	4,220
36"	13,200	2,700	72"	22,500	4,500
	14,000	2,900		24,000	4,900

DOUBLE END

15"	16,500	\$3,690	42"	33,100	\$6,700
20"	19,100	3,990	48"	36,100	7,275
25"	21,300	4,475	54"	39,900	8,135
30"	24,500	5,060	60"	43,100	8,740
36"	26,100	5,480			

NO. 6-A SPECIAL SINGLE-END PUNCH

Weight, 12,500. Arranged for direct-connected motor drive requiring a 5 h. p. 1,200 r. p. m. motor. No electrical equipment included in this quotation. 14" to 15" throat from center of ram; ram—40" x 11"--- \$2,800
Capacity: Punching 1" holes in 1" plate, or equivalent in multiple punching.

NO. 6-B SINGLE END PUNCH

Weight 11,000 pounds, motor required is 5 hp., 1,200 r. p. m. Motor and starter for 220/440 volt, 3 phase, 60 cycle current. No electrical equipment included in above price. Depth of throat — 15", 1 1/2" stroke. Extra for motor and starter \$2,570
106

Table fitted with cast iron bolster with tee slots to match face of ram.
Capacity: Punching 1" through 1".

NO. 7 SINGLE AND DOUBLE END PUNCHES AND SHEARS

Punches 1 1/4 x 1". Shears round bars 2". Splits plates 1". Shears flats 7 x 1". Shears angles 6 x 6 x 3/8.

SINGLE END

Throat	Weight	Price	Throat	Weight	Price
15"	Pounds		42"	Pounds	
20"	12,000	\$2,440	48"	23,000	4,680
25"	13,200	2,680	54"	24,800	5,050
30"	16,300	3,310	60"	25,900	5,300
36"	17,500	3,570	72"	27,500	5,600
	20,600	4,180		30,600	6,200

BEATTY MACHINE & MFG. CO., HAMMOND, IND.—Continued

NO. 7 SINGLE AND DOUBLE END PUNCHES AND SHEARS—continued

DOUBLE END

15"	20,900	\$4,270	42"	42,000	8,560
20"	24,500	5,000	48"	47,500	9,700
25"	30,500	6,240	54"	49,700	9,650
30"	32,900	6,700	60"	52,900	10,790
36"	39,200	8,000	72"	59,100	12,065

Extra for motor and starter \$142

Motor required: 7 1/2 hp., 1,200 r. p. m., motor and starter for 220/440 volt, 3 phase, 60 cycle current.

NOTE.—Prices based on standard equipment with plain table, one set of single stem punching tools and fitted with tight and loose pulley for belt drive.

NO. 7-72" SINGLE END PUNCH

Weight 33,425 pounds, 72" throat, 2" stroke, requires a 7 1/2 hp. 1,200 r. p. m. motor and starter for 220/440 volt, 3 phase, 60 cycle, current.. \$6,815
Extra for motor connections 117
Extra for complete set dishing tools 219
Extra for motor and starter 142

Capacity of 100 tons ram pressure, or 1 1/4" through 1" plate.

NO. 7 QUICK ACTING SINGLE END PUNCH

Weight 12,200 pounds; capacity—1 1/4" through 1", or four (4) 1 1/8" holes through 3/8" angles \$2,510

NO. 7 QUICK ACTING SINGLE END PUNCH AND SPACING TABLE

Weight 23,000 pounds, 15" throat; 1 1/4" stroke. Punching 1 1/4" through 1", or four (4) 1 1/8" holes through 3/8" angles, or two (2) 1 1/8" holes through 3/8" \$8,515

NO. 8-B BEAM PUNCH

(Die space arranged for single row punching tools)

Weight 27,800 pounds, requires 10 hp., 1,200 r. p. m., motor and starter for 220/440 volt, 3 phase, 60 cycle current. 22" depth of throat, 34" x 40" table, with 2" stroke \$4,186
164
Extra for motor and starter

Capacity: 137 tons ram pressure, or two 1" holes through 3/8" plate.

NO. 8 DOUBLE END PUNCH PRESS

(Extra large die space. 1/2" vertical adjustment build in 2" x 4" stroke)

Weight—30,700 pounds; motor—10 hp., 1,200 r. p. m., motor and starter for 220/440 volt, 3 phase, 60 cycle current. No electrical equipment is included with the above price \$5,530

Capacity:
Punching 1 1/4" x 1"
Shearing flats 8" x 1 1/4"
Shearing rounds 2 1/4"
Shearing angles 6 x 6 x 1 1/2"
Shearing plates 1 1/8"
Extra for motor and starter \$164

BEATTY MACHINE & MFG. CO., HAMMOND, IND.—Continued.

NO. 8 SINGLE END PUNCH

(With Special Ram and Table)

Weight—17,725 pounds, 10 hp., 1,200 r. p. m. motor and starter for 220/440 volt, 3 phase, 60 cycle current. No electrical equipment included in price. 26" x 24" table, stroke of slide, 2½" ----- **Price**
\$3,386

Capacity: Punching 1¼" holes through 1" material. Ram pressure 137 tons.

Extra for motor and starter----- **164**

NO. 8 SINGLE AND DOUBLE END PUNCHES AND SHEARS

Punches 1¼" x 1". Shears rounds 2½". Splits plates 1½". Shears flats 8 x 1½". Shears angle 6 x 6 x ½"

SINGLE END

Throat	Weight	Price	Throat	Weight	Price
	Pounds			Pounds	
15"-----	15,000	\$3,240	42"-----	78,600	\$5,820
20"-----	17,300	3,670	48"-----	82,500	6,625
25"-----	21,000	4,280	54"-----	86,700	7,480
30"-----	24,000	4,890	60"-----	88,000	8,335
36"-----	27,500	5,600			

DOUBLE END

15"-----	Pounds	\$4,890	42"-----	Pounds	\$10,560
20"-----	24,000	5,912	48"-----	82,000	12,635
25"-----	28,500	7,645	54"-----	85,500	13,625
30"-----	45,000	9,175	60"-----	86,000	14,540
36"-----	49,700	10,120			

NO. 8 SINGLE END PUNCH AND SHEAR

Weight 17,700 pounds, machine arranged for direct connected motor drive----- **Price**
\$3,640

Capacity: Ram pressure 137 tons. Punching 1: ¾" through 1" material. Shearing 1½" x 8" mild steel, or 2¼ rounds.

Stroke of ram----- **3"**
Depth of throat----- **13"**
Table----- **14" x 28"**

NO. 8-B-1 BEAM PUNCH

(Die space arranged for double row punching tools)

Weight—28,500 pounds, required—10 hp., 1,200 r. p. m. motor and starter for 220/440 volt, 3 phase, 60 cycle current----- **\$4,330**
Depth of throat----- **22"**
Table----- **28" x 40"**

NO. 9 SINGLE END PUNCH

(Enlarged Die Space)

Weight—21,500 pounds; depth of throat—15"; 18" x 30" table; 2" stroke; requires 15 hp., 1,200 r. p. m.----- **\$5,044**
Extra for motor and starter----- **206**

BEATTY MACHINE & MFG. CO., HAMMOND, IND.—Continued.

NO. 9 SINGLE AND DOUBLE END PUNCHES AND SHEARS

Punches: 2½" x 1½". Flats: 2½" Rds. Angles: 6 x 6 x ¾". Shears Bars: 9" x 11¼". Splitting Plates: 1½".

SINGLE END

Throat	Weight	Price
	Pounds	
15"-----	20,500	\$4,180
25"-----	24,000	4,890
30"-----	26,500	5,400
36"-----	31,000	6,420
42"-----	34,000	6,930
60"-----	37,000	7,600

DOUBLE END

15"-----	Pounds	\$6,625
	32,500	

NO. 9-B HEAVY DUTY SINGLE END PUNCH

Weight 34,000 pounds; 24" throat; 46½" x 32" table; 2½" stroke; 15 hp., 1,200 r. p. m. (no electrical equipment included)----- **Price**
\$5,420

NO. 9-B-1 HEAVY DUTY SINGLE END PUNCH

Weight 36,000 pounds, requires motor 15 hp., 1,200 r. p. m. Punching two (2) holes 1½" x 1". Punching four (4) holes 1½" x ¾"----- **5,640**
Extra for motor and starter----- **206**

NO. 9-B-2 HEAVY DUTY SINGLE END PUNCH

Punching one (1) 2¼" hole through 1½" material or equivalent in multiple punching or slotting----- **5,225**
Extra for motor and starter----- **206**

NO. 9-B-3 HEAVY DUTY SINGLE END PUNCH

Weight 25,700 pounds; 15 hp., 1,200 r. p. m. motor and starter for 220/440 volt, 3 phase, 60 cycle current. Punching one (1) 2¼" hole through 1½" material or equivalent in multiple punching or slotting----- **5,235**

NO. 10 SINGLE END PUNCH

(Equipped with blanking and forming dies for 12 and 16" heads for tanks)

Weight 36,700 pounds; 20 hp., 1,200 r. p. m. motor and starter for 220/440 volt, 3 phase, 60 cycle current----- **5,969**
Capacity: 200 tons ram pressure or punching 2¼" hole through 1½" material or equivalent in multiple punching, blanking or pressing.----- **\$265**
Extra for motor and starter-----

NO. 10-C DOUBLE END PUNCH

Weight 45,850 pounds; 250 tons ram pressure or 2½" through 1½" material----- **9,973**
Extra for motor and starter----- **265**

NO. 10 BEAM PUNCH—STANDARD

Weight 46,000 pounds; capacity—2¼" through 1½" mild steel----- **9,376**
Extra: Motor and starter----- **265**

NO. 10 SINGLE END PUNCHES AND SHEARS

15"—22,000 pounds approximate----- **4,480**
25"—27,000 pounds approximate----- **5,630**
Extra for motor and starter----- **265**
Capacity: Punches 2¼" x 1½". Angles 6 x 6 x ¾". Shears bars 10" x 1½". Flats—2½" Rds. Splitting plates 1½".

BEATTY MACHINE & MFG. CO., HAMMOND, IND.

OPEN FRONT BAR SHEARS

	Price
No. 4—4,500 pounds. Requires 3 hp., 1,200 r. p. m.	\$1,425
Extra for motor connection	65
Extra for motor and starter	82
No. 5—6,500 pounds. Requires 3 hp., 1,200 r. p. m.	1,630
Extra for motor connection	65
Extra for motor and starter	82
No. 6—9,000 pounds. Requires 5 hp., 1,200 r. p. m.	1,950
Extra for motor connection	72
Extra for motor and starter	105
No. 7—12,000 pounds. Requires 7½ hp., 1,200 r. p. m.	2,240
Extra for motor connection	72
Extra for motor and starter	140
No. 8—16,300 pounds. Requires 10 hp., 1,200 r. p. m.	2,900
Extra for motor connection	80
Extra for motor and starter	160
No. 9—20,500 pounds. Requires 15 hp., 1,200 r. p. m.	4,412
Extra for motor connection	80
Extra for motor and starter	205
No. 10—23,500 pounds. Requires 20 hp., 1,200 r. p. m.	4,520
Extra for motor connection	100
Extra for motor and starter	265
No. 11—33,000 pounds. Requires 25 hp., 1,200 r. p. m.	5,625
Extra for motor connection	105
Extra for motor and starter	300

CHARLES H. BESLY AND COMPANY, 118-124 North Clinton St., Chicago, Ill.

SINGLE SPINDLE BELT-DRIVEN BESLY GRINDERS

	No. 110-10, 18"	No. 108, 20"	No. 108, 23"	No. 114-14, 26"	No. 114-14, 30"	No. 17, 30"	No. 21, 36"
Base: Ball bearing	\$255	\$325	\$325	\$350	\$390		
Base: Ring oiling	170			250	250	\$350	\$450
Countershaft:							
Ring oiling	50	70	70	70	70	70	70
Timken roller bearing	85	95	95	110	110	110	110
Disc wheels, plain, each	18	21	28	37	49	49	97
Disc wheels, drilled for bolted-on discs, each	21	24	31	40	53	53	102
Geared lever feed table, standard type, each	126	139	139	153	153	153	165
Combination table, each	52	65	65	80	80	80	80
Plain table	34	40	40	46	46	46	58
Truing device (lever table)	5	5	5	5	5	5	5
Truing device (plain table)	15	15	15	15	15	15	15
Welded steel exhaust hoods, each							

1 On Application.

SINGLE SPINDLE MOTOR-DRIVEN BESLY GRINDERS

	No. 5, 18"	No. 131, 18"	No. 141, 20"	No. 141, 23"	No. 151, 26"	No. 151, 30"	No. 161, 36"
Base: Ball bearing	\$295	\$685	\$890	\$890	\$1,125	\$1,250	\$1,800
Disc wheels, plain, each	18	18	21	28	37	49	57
Disc wheels, drilled for bolted-on discs, each	21	21	24	31	40	53	61
Geared lever feed table, standard type, each	100	126	139	139	153	153	220
Combination table, each	52	52	65	65	80	80	80
Plain table	34	34	40	40	46	46	58
Truing device (lever table)	5	5	5	5	5	5	5
Truing device (plain table)	15	15	15	15	15	15	15
Welded steel exhaust hoods, each	25						

On application.

For the No. 5 "F" type or "R" type grinder:
Solid emery wheel rest and 12" wheel guard.....\$30
12" x 1" x 1" grinding wheel.....6

CHARLES H. BESLY AND COMPANY, 118-124 North Clinton St., Chicago, Ill.—Continued

SINGLE SPINDLE BESLY GRINDERS ARRANGED FOR MOTOR DRIVE

	No. 205, 15"	No. 205, 18"	No. 210, 18"	No. 208, 20"	No. 208, 23"	No. 214, 26"	No. 214, 30"
Base, arranged for motor drive, including V-belts, motor sheave, belt guard, right-hand and left-hand welded steel exhaust hoods. (No motor or starter)	\$290	\$295	\$670	\$850	\$860	\$1,030	\$1,270
Disc wheels, plain, each	16	18	18	21	28	37	49
Disc wheels, drilled for bolted-on discs, each	18	21	21	24	31	40	53
Geared lever feed table, standard type, each	126	126	139	153	153	220	220
Combination table	48	48	65	80	80	80	80
Plain tilting table	34	34	40	46	46	5	5
Truing device (lever table)	5	5	5	5	5	15	15
Truing device (plain table)	15	15	15	15	15	15	15

VERTICAL SPINDLE (HORIZONTAL) BESLY GRINDERS ARRANGED FOR MOTOR DRIVE

	No. 326, 23"	No. 326, 26"	No. 342, 30"	No. 342, 36"	No. 342, 42"	No. 372, 53"	No. 372, 72"	No. 372, 18"	No. 372, 53"
Dry base, arranged for motor drive, with multiple Vee-belt transmission including Vee belts, motor sheave and belt guard, radial arm compensating truing device. No motor or starter	\$850	\$880	\$1,120	\$1,330	\$1,630	\$1,870	\$2,860		
Wet base, arranged for motor drive, with multiple Vee-belt transmission including Vee belts, motor sheave and belt guard, radial arm compensating truing device, motor driven circulating pump, piping and settling tank. No spindle driving motor or starter	1,035	1,065	1,345	1,555	1,855	2,135	3,180		
Disc wheels, drilled for bolted-on discs	31	40	53	102	(Included in price of base)				

Dry base, ball bearing, complete with 5 h. p., 1,200 r. p. m., 220/440 volt, 3-phase, 60-cycle motor, push button control and radial arm compensating truing device.....\$665
Wet base, ball bearing, complete with 5 h. p., 1,200 r. p. m., 220/440 volt, 3-phase, 60-cycle motor, push button control and radial arm compensating truing device, also motor driven pump and piping.....\$75
Base with spindle, exhaust drive pulley (no exhauster), arranged for motor drive by means of flexible coupling connecting motor shaft to horizontal shaft of machine including coupling. No motor or starter (also furnished belt driven at same price).....20
Disc wheel, drilled for bolted-on discs.....181
Bar type truing device.....75

BESLY GRINDER PARTS AND ACCESSORIES

	10"	12"	15" or 16"	18"	20"	23"	26"	30"	30" E. H.	36"	42"	53"	72"
Steel disc wheels, plain	\$13	\$11	\$16	\$18	\$21	\$28	\$37	\$49	\$57	\$97	\$132	\$172	\$517
Steel disc wheels, drilled for bolted-on discs	14	13	18	21	24	31	40	53	61	102	138	181	530
No. 1	No. 10	No. 108	No. 12	No. 14	No. 21								
Plain tilting tables:	\$32	\$34	\$40	\$40		\$46	\$58						
Standard	48	46	54	54		69	75						
Extra large		52	65	80		80							
Combination tables	No. 1	No. 10	No. 108	No. 14	No. 21	No. 16-30"							
Geared lever feed tables:	\$97	\$126	\$139	\$153		\$165	\$220						
Standard		95	100	110		120							
Commercial													

H. BICKFORD & COMPANY, LAKEPORT, N. H.

BORING MILL

Machine:	Price	Machine—Cont.	Price
48" mill, belt driven.....	\$7,000	84" mill, belt driven.....	\$8,300
60" mill, belt driven.....	7,350	84", spread to 96", belt	
72" mill, belt driven.....	7,750	driven.....	9,000

BIGNALL & KEELER MACHINE WORKS OF THE N. O. NELSON CO.,
EDWARDSVILLE, ILL.

PIPE THREADING AND CUTTING-OFF MACHINES

Size machine	Capacity	Weight	Belt drive	Motor drive
<i>Pounds</i>				
No. 2 B&K.....	1/4 to 2 inches.....	1,450	\$475	\$655
No. 2 Peerless.....	1/4 to 2 inches.....	2,600	800	1,025
No. 2 PDQC.....	1/4 to 2 inches.....	2,900	900	1,125
No. 3 Peerless.....	1/4 to 3 inches.....	3,000	1,000	1,220
No. 3 PDQC.....	1/4 to 3 inches.....	3,200	1,130	1,350
No. 4 Peerless.....	1 to 4 inches.....	3,800	1,290	1,480
No. 4 PDQC.....	1 to 4 inches.....	4,200	1,500	1,780
No. 6 Duplex.....	1 1/4 to 6 inches.....	6,000	1,810	2,050
No. 8 Duplex.....	2 1/4 to 8 inches.....	7,800	2,220	2,485
No. 10 Duplex.....	3 1/4 to 10 inches.....	11,100	2,980	3,340
No. 12 Duplex.....	4 to 12 inches.....	12,000	3,430	3,790
No. 18 Duplex.....	8 to 18 inches.....	13,400	4,150	4,535

BILGRAM GEAR AND MACHINE WORKS, INC., PHILADELPHIA, PA.

PRICES ON MACHINES FOR CUTTING STRAIGHT AND SPIRAL TEETH

	Price
6" machine.....	\$5,200 without motor. \$5,400 with motor.
8" machine.....	\$5,800 without motor. \$6,000 with motor.
12" pinion machine.....	\$12,500 with motor and P. I. V. drive.
16" machine.....	\$9,500 with motor and P. I. V. drive, straight.
30" machine.....	\$10,000 with motor and P. I. V. drive, spiraloidal. \$15,000 with motor and P. I. V. drive.

Notes.—The above prices of 6", 8", 12", and 30" machines are suitable for cutting spiral tooth bevel gears as well as straight tooth. All the above machines are equipped with a complete line of necessary accessories.

THE BILLINGS & SPENCER CO., HARTFORD, CONN.

BOARD DROP HAMMERS

APPROXIMATE PRESENT PRICES

Size (pounds)	Model D pulley drive	Model F pulley drive	Model G motor drive	Size (pounds)	Model D pulley drive	Model F pulley drive	Model G motor drive
400.....	\$2,377			1,400.....	\$4,667	\$5,667	\$9,535
500.....	2,377			1,800.....	5,103	6,000	9,667
600.....	3,083			2,000.....	6,167	7,500	11,167
800.....	3,362			2,200.....	6,340	7,833	11,500
1,000.....	3,902	\$5,208	\$8,683	2,500.....	8,250	10,750	14,750
1,200.....	4,167	5,450	8,833	3,000.....	8,833	11,333	15,333

THE BILLINGS & SPENCER CO., HARTFORD, CONN.—Continued

DIE SINKING MACHINE

APPROXIMATE PRESENT PRICES

Pulley Drive.....	\$5,633
Motor Drive.....	5,833

TRIMMER MILLER NO. 21

APPROXIMATE PRESENT PRICES

Pulley Drive.....	\$2,720
Motor Drive.....	3,153

"DI-MATIC" 2 SPINDLE BAR. STOCK AUTOMATIC

Model B-1.....	\$4,300
Model B-2.....	5,200

TRIMMING PRESSES

APPROXIMATE PRESENT PRICES

Size	Pulley	Motor drive
No. 1.....	\$2,463	These sizes not built with motor drive.
No. 2.....	2,820	Do.
No. 2 1/2.....	3,447	\$3,822.
No. 3.....	4,873	\$5,137.

THE BLANCHARD MACHINE CO., 64 STATE ST., CAMBRIDGE, MASS.

SURFACE GRINDERS

No.	Wheel	Diameter of chuck	Shipping weight	Price ¹ f. o. b. cars, Cambridge, Mass.
<i>Pounds</i>				
10 ¹	10" x 4" x 8".....	16".....	6,600	\$3,150
11.....	11" x 5" x 9".....	16".....	6,100	3,250
12.....	12" x 5" x 10".....	20".....	10,200	5,160
13.....	13" x 5" x 10".....	20".....	10,450	5,424
14.....	14" x 5" x 10".....	30".....	10,700	5,792
15.....	15" x 5" x 10".....	30".....	12,100	6,824
16.....	16" x 5" x 10".....	30".....	12,350	7,068
17.....	17" x 5" x 10".....	30".....	36,000	20,480
18.....	18" x 5" x 10".....	48" short base.....	39,000	22,790
19.....	19" x 5" x 10".....	60" short base.....	46,000	23,840
20.....	20" x 5" x 10".....	60" long base.....	47,800	25,460
21.....	21" x 5" x 10".....	60" long base and extension ring, 84" diameter on chuck.....	49,400	26,670
22.....	22" x 5" x 10".....	60" long base and extension ring, 96" diameter on chuck.....	11,750	6,700
23.....	23" x 5" x 10".....	30" plain table.....	11,750	7,100
24.....	24" x 5" x 10".....	30" magnetic chuck.....	21,000	10,500
25.....	25" x 5" x 10".....	43" plain table.....	21,000	12,850
26.....	26" x 5" x 10".....	40" magnetic chuck.....		

¹ All prices now subject to increase not exceeding 10 percent 90 days before scheduled shipping date.
² The No. 10 is obsolete, being superseded by No. 11. Price given was in effect in 1940. A belted type, same size, sold for \$3,000.
³ Extra-dial leader, \$400.

BLANK AND BUXTON MACHINERY CO., JACKSON, MICH.

INDEX HIGH-SPEED VERTICAL MILLS

No. 40H.....	\$960.00
No. 39H—Same as 40H—less verniers.....	895.00
No. 38H—Same as 40H—less verniers and spindle feed.....	795.00
Power feed on any machine.....	154.00

SPECIFICATIONS

Capacity, $\frac{1}{8}$ " to $\frac{3}{8}$ ".
 Table, work. surf., 8" x 22".
 Drive, heavy duty silent V belt.
 Height overall, 69 $\frac{1}{2}$ ".
 Weight, 950 lbs. net.

J. G. BLOUNT COMPANY, EVERETT, MASS.

WET TOOL GRINDERS

	Sizes			
	14" Comb.	14"	20"	30"
BELT DRIVEN				
Machine with countershaft and 1 wheel.....	\$202	\$158	\$247	\$441
MOTOR DRIVEN—FLAT OR V-BELT DRIVE				
Machine with belt tightener, 1 wheel, no motor.....	213	169	156	458

BUFFERS, BELT DRIVEN, BABBITT BEARINGS, SELF-OILING

	Sizes					
	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7
Complete machine.....	\$53	\$64	\$75	\$83	\$97	\$130
Head on column.....	42	50	59	67	78	102
Head only.....	30	33	43	48	56	75
Column only.....	12	16	16	19	23	27
Countershaft only.....	11	14	15	16	19	22
Head only, with T & L pulleys on spindle.....	37	40	50	56	66	87
Complete, without countershaft, with T & L pulleys on spindle.....	49	56	67	74	89	113

BALL BEARING BUFFERS—BELT DRIVEN

	Sizes		
	No. 3	No. 5	No. 7
Complete, with roller bearing countershaft.....	\$114	\$154	\$209
Complete, with plain self-oiling countershaft.....	87	121	155
Head on column.....	73	102	128
Head only.....	57	80	101
Hyatt roller-bearing countershaft.....	41	62	81
Plain self-oiling countershaft.....	14	19	27
Head only, with T & L pulleys on spindle.....	63	87	110
Complete, without countershaft, with T & L pulleys on spindle.....	80	109	137
Column only.....	16	22	27

J. G. BLOUNT COMPANY, EVERETT, MASS.—Continued

OVERHANG BUFFERS, BELT DRIVEN, BABBITT BEARING, SELF-OILING

	Sizes	
	No. 6	No. 7
Complete machine.....	\$100	\$137
Head on column.....	80	108
Head only.....	57	81
Column only.....	23	27
Countershaft only.....	19	29
Complete, w/o countershaft, with T & L pulleys on spindle.....	90	120
Head only, with T & L pulleys on spindle.....	66	93

MODEL H. S.—10" HIGH SPEED QUILL TYPE GRINDER

Machine complete with motor and starter..... \$428.00

SPEED LATHES—BELT DRIVEN—COMPLETE WITH COUNTERSHAFT

	Sizes										
	11" x 3'	11" x 4'	11" x 5'	11" x 6'	13" x 5'	13" x 6'	13" x 8'	13" x 10'	16" x 6'	16" x 8'	16" x 10'
Floor legs.....	\$130	\$137	\$144	\$151	\$191	\$200	\$231	\$277	\$260	\$300	\$355

Speed lathe with self-oiling head, \$9 extra.

SETOVER SWIVEL TAILSTOCK LATHES—BELT DRIVEN

	11" x 3'	11" x 4'	11" x 5'	11" x 6'	13" x 5'	13" x 6'	13" x 8'	13" x 10'	16" x 6'	16" x 8'	16" x 10'
With countershaft.....	\$194	\$202	\$210	\$216	\$275	\$283	\$319	\$360	\$352	\$393	\$439

LEVER DRAW-IN SPEED LATHES—BELT DRIVEN

	Sizes			
	11" x 3'	11" x 4'	11" x 5'	11" x 6'
Complete with countershaft, floor type.....	\$270	\$276	\$283	\$291

HAND WHEEL DRAW-IN SPEED LATHES—BELT DRIVEN

	Sizes			
	11" x 3'	11" x 4'	11" x 5'	11" x 6'
Complete with countershaft, floor type.....	\$270	\$273	\$280	\$286

Lathes with ring-oiling bearings, \$11.50 extra.

LATHES WITH RING-OILING BEARINGS, BELT DRIVEN

	Sizes			
	11" x 3'	11" x 4'	11" x 5'	11" x 6'
Complete with countershaft, 3-step cone, floor type.....	\$152	\$159	\$167	\$174
Complete with countershaft, 4-step cone, floor type.....	158	165	173	180

$\frac{1}{4}$ H. P., A. C. MOTOR HEADSTOCK LATHE, WITH HAND-FEED CARRIAGE AND SET OVER SWIVEL TAILSTOCK

	Sizes				
	12" x 4'	12" x 5'	12" x 6'	12" x 7'	12" x 8'
Complete, floor type.....	\$510	\$519	\$529	\$540	\$554

Plain tailstock, deduct \$59.

J. G. BLOUNT COMPANY, EVERETT, MASS.—Continued

2 H. P., A. C. MOTOR HEADSTOCK PATTERN MAKERS' LATHE WITH SETOVER SWIVEL TAILSTOCK, HAND FEED CARRIAGE, 8 SPEED HEADSTOCK, FOR A. C. 220, 440, OR 550 VOLTS, 3 PHASE, 60 CYCLES

	Sizes			
	16" x 6'	16" x 8'	16" x 10'	16" x 12'
Complete, floor type.....	\$979	\$1,030	\$1,069	\$1,130

Extra for fully enclosed magnetic starter with overload- and low-voltage release, and including push button automatically operated from controller handle.

LATHE ATTACHMENTS

	Sizes		
	11" lathe	13" lathe	16" lathe
Friction countershaft, Bulletin D-8.....			
Regular slide rest.....	\$39	\$44	\$49
Improved slide rest.....	57	69	84
Cut-off rests.....	79	88	
Turrets.....	67	68	73
	82	92	

THE BODINE CORPORATION, BRIDGEPORT, CONN.

	Base price list					
	40-10	41-20	42-20	42-30	48-20	48-30
Machine complete (tapping) with 220-volt, 3-phase, 60-cycle motor, starter, coolant pump, 1 adjustable ball-bearing tapping spindle, no tools.....	\$1,900	\$2,400	\$3,200	\$3,750	\$4,000	\$4,500
Machine complete (drilling) with 220-volt, 3-phase, 60-cycle motor, starter, coolant pump, 1 adjustable ball-bearing standard drilling spindle, no tools.....	1,900	2,400	3,200	3,750	4,000	4,500
Each additional standard ball-bearing tapping spindle on vertical slide.....	150	150	200	200	200	200
Each additional standard ball-bearing drilling spindle on vertical slide.....	150	150	200	200	200	200
Threading spindle for self-opening die head or collapsible tap, with bracket, drive, trip mechanism, etc., but less motor, or starter, or die head, or tap.....			400	400	400	400
Threading spindle, heavy duty, for self-opening die head or collapsible tap, with bracket, drive, trip mechanism, etc., but less motor, or starter, or die head, or tap.....						
Milling spindles, special, depending on work to be done, approximate price per spindle.....			550	550	550	550
Screw-inserting mechanism including hopper, chutes, transfer fingers, screw-driver spindle, spinning spindle, backing-up spindle, drive, starter and wiring, less motor, per set, approximate.....			600	600	600	600
Jack shaft assemblies with drive pulley and gear.....	975	975	1,050	1,050	1,050	1,050
Cam shaft clamping device for two stations, add to machine price.....	100	100	125	125	140	140
Drill jigs, dependent on type, etc. approximate, each.....	75	100				
Pressure pads or strippers, dependent on type, approximate.....	75	75	90	90	90	90
Dials and rings depend upon work to be done. Prices can only be quoted after engineering layout. Simple type tools start at, per set.....	40	40	50	50	50	50
	50	110	125	200	125	200

Automatic screw-inserting machine 61A, less tools, \$950.
Automatic screw-inserting machine 61AA, less tools, \$950.
All prices f. o. b. our factory at Bridgeport, Conn., packed for domestic shipment.

BOYAR-SCHULTZ CORPORATION, CHICAGO, ILL.

Boyar-Schultz Profile Grinder No. 1, weight 85 pounds; retail selling price.....	\$260
Boyar-Schultz Profile Grinder No. 2, single spindle model, weight 750 pounds; retail selling price.....	1,040
Boyar-Schultz Profile Grinder No. 2, dual spindle model, weight 1,000 pounds; retail selling price.....	1,690

BOYE & EMMES MACHINE TOOL CO., CINCINNATI, OHIO

Model No.	Rated size and distance between centers	Base weight	Price, base machine	Weight 2' bed extra	Price per 2' bed extra
		Pounds		Pounds	
AA.....	14" x 30"	3,660	\$3,066	260	\$111
A.....	16" x 30"	4,400	3,381	300	126
B.....	18" x 30"	5,850	3,938	380	147
C.....	20" x 48"	8,100	4,914	500	179
D.....	22" x 48"	8,490	5,250	500	189
E.....	24" x 48"	11,800	7,004	700	252
F.....	27" x 48"	12,200	7,424	700	263
G.....	30" x 60"	15,500	9,398	900	347
H.....	36" x 60"	16,100	9,975	900	357
J.....					

THE BRADFORD MACHINE TOOL CO., CINCINNATI, OHIO
LATHES

Size	Base weight	Base price	Extra 2' bed	Taper attachment
12" x 6'.....	2,800	\$2,800	\$105	\$250
14" x 6'.....	3,100	2,950	110	260
16" x 6'.....	3,500	3,290	120	285

C. C. BRADLEY & SON, INC., SYRACUSE, N. Y.
BRADLEY CUSHIONED UPRIGHT HELVE HAMMER

[Domestic net prices]

Size (pounds)	Belt-driven	Motor-driven	Size (pounds)	Belt-driven	Motor-driven
30.....	\$635	\$660	150.....	\$1,300	\$1,355
50.....	825	850	200.....	1,455	1,510
75.....	885	915	300.....	2,185	2,240
100.....	1,080	1,105	500.....	2,440	2,495
125.....	1,140	1,170			

BRADLEY CUSHIONED HELVE HAMMER

Size (pounds)	Belt-driven	Motor-driven	Size (pounds)	Belt-driven	Motor-driven
15.....	\$560	\$580	80.....	\$1,335	\$1,380
25.....	635	660	100.....	1,425	1,455
40.....	825	850	200.....	2,090	2,145
60.....	1,175	1,200			

The motor-driven hammer prices cover the hammer arranged for motor drive including motor stand but do not cover motor, motor pulley, or belting.
Export prices include hammer boxes for ocean transportation, delivered f. o. b. New York City. Domestic prices include hammer skidded for rail or truck transportation delivered f. o. b. Syracuse.

C. C. BRADLEY & SON, INC., SYRACUSE, N. Y.—Continued

BRADLEY COMPACT HAMMERS

Size (pounds)	Belt drive	Motor drive	Size (pounds)	Belt drive	Motor drive
15.....	\$485	\$515	125.....	\$925	\$955
30.....	575	600	150.....	1,080	1,105
50.....	675	700	200.....	1,205	1,235
75.....	735	760	300.....	1,840	1,895
100.....	870	890			

BRADLEY UPRIGHT STRAP HAMMERS

Size (pounds)	Belt drive	Motor drive	Size (pounds)	Belt drive	Motor drive
15.....	\$460	\$485	100.....	\$1,080	\$1,105
30.....	635	660	125.....	1,140	1,170
50.....	825	850	150.....	1,300	1,355
75.....	885	915	200.....	1,455	1,510

BRIDGEPORT MACHINES, INC., BRIDGEPORT, CONN.

TURRET MILLING MACHINE

Turret milling machine complete with master attachment and 1 collet.....	\$995. 00
Less attachment.....	720. 00
(Machine put on market 1938, no change in price.)	

"MASTER ATTACHMENT"

No. 2 Morse or No. 7 Brown & Sharpe, spindle taper optional, price complete with ½ h. p. motor, wrench, 1 collet.....	295. 00
Extra collets, sizes ½", ⅝", ¾", ⅞", 1", 1 ⅛", 1 ½", 1 ¾", 2".....each.....	4. 25
Weight: Machine 63 lbs.; motor 54 lbs.; total 117 lbs. (Machine put on market 1934, no change in price.)	

½ H. P. ATTACHMENT

Price complete with single or 3-phase motor, wrench, 1 collet or adapter.....	245. 00
Extra collets, sizes ½", ⅝", ¾", ⅞", 1", 1 ⅛", 1 ½", 1 ¾", 2".....each.....	5. 00
Adapters for No. 2 Morse or No. 7 B. & S. tapers.....each.....	5. 00
Weight: Machine 46 lbs.; motor 54 lbs.; total 100 lbs. (Machine put on market 1932, no change in price.)	

THE BRIDGEPORT SAFETY EMERY WHEEL CO., BRIDGEPORT, CONN.

BRIDGEPORT FLOOR GRINDERS, HEAVY-DUTY SERIES, BALL BEARING, ALTERNATING CURRENT, GENERAL ELECTRIC MOTORS, 3 PHASE

Type	H. p.	R. p. m. speed, no load	Size of wheels	Weight crated	Price
2 A. C.....	3	1,200	18" x 2¼"	Pounds 1,210	\$492
2 A. C.....	5	1,200	18" x 2¼"	1,250	540
2 A. C., 25 cy.....	3	1,500	16" x 2½"	1,210	492
6 A. C.....	5	1,200	18" x 3"	1,640	606
6 A. C., 25 cy.....	5	1,500	18" x 3"	1,640	606
7 A. C.....	7½	900	24" x 4"	2,300	750
7 A. C., 25 cy.....	7½	750	24" x 4"	2,300	750
8 A. C.....	10	900	24" x 4"	2,970	930
8 A. C., 25 cy.....	10	750	24" x 4"	2,970	930
9 A. C.....	15	720	30" x 4"	3,300	1,110
9 A. C., 25 cy.....	15	750	30" x 4"	3,300	1,110

THE BRIDGEPORT SAFETY EMERY WHEEL CO., BRIDGEPORT, CONN.—Continued

BRIDGEPORT HIGH-SPEED FLOOR GRINDERS, ALTERNATING CURRENT, 60 CYCLE, 2 OR 3 PHASE, 3 SPEEDS, TIMKEN BEARINGS

Type	H. p.	Size of wheels	Weight crated	Price
161.....	10	24" x 3".....	Pounds 4,450	\$1,140
161.....	15	24" x 3".....	4,600	1,200
162.....	15	30" x 3".....	4,600	1,320

Above prices are with magnetic full voltage (across-the-line) starters and push-button station, without wheels or adaptors.
For reduced voltage starters (auto-transformer type) add \$66.

BRIDGEPORT FLOOR GRINDERS, HEAVY-DUTY SERIES, BALL BEARING, MOTOR DRIVE, DIRECT CURRENT, CROCKER-WHEELER MOTORS

Type	H. p.	Speed r.p.m., no load	Size of wheels	Weight crated	Price
2 D. C.....	2½	1,350	14" x 2".....	Pounds 1,530	\$516
6 D. C.....	3	1,100	18" x 3".....	2,285	642
7 D. C.....	3½	800	24" x 4".....	2,750	792
8 D. C.....	5	800	24" x 4".....	3,300	984
9 D. C.....	10	800	24" x 4".....	3,300	1,176

DIRECT CURRENT—WESTINGHOUSE MOTOR

Type	H. p.	Speed r.p.m., no load	Size of wheels	Weight crated	Price
35 D. C.....	3	1,200	18 x 3.....	Pounds 1,720	\$642
36 D. C.....	5	850	24 x 4.....	2,250	792
37 D. C.....	7½	850	24 x 4.....	2,600	984
38 D. C.....	10	850	24 x 4.....	3,100	1,176

BRIDGEPORT FLOOR GRINDERS

[Ball Bearings. Alternating current. General Electric Motor. 3 phase]

Type	H. p.	R. p. m. speed, no load	Size of wheels	Weight crated	Price
184 A. C.....	2	1,800	12 x 2.....	Pounds 500	\$264
184 A. C., 25 cy.....	2	1,500	12 x 2.....	500	290
185 A. C.....	3	1,200	16 x 2½.....	915	360
185 A. C., 25 cy.....	3	1,500	16 x 2½.....	905	396
186 A. C.....	5	1,200	18 x 3.....	1,170	450
186 A. C., 25 cy.....	5	1,500	16 x 3.....	1,190	494

Prices cover machine with regular equipment of steel plate hinged-door guards, automatic starter, overload and undervoltage protection push button control, ball bearing spindle.

BRIDGEPORT BELT-DRIVEN FLOOR GRINDERS

Type	C/S speed r. p. m. new wheels 5,500 r. p. m. slow speed	Size of plain wheel	Size of taper safety wheel	Weight crated	Price with countershaft	Price without countershaft
1 BD.....	563	12 x 2.....	12 x 2.....	Pounds 470	\$120	\$108
2 BD.....	410	16 x 2½.....	16 x 2.....	795	156	138
6 BD.....	511	18 x 3.....	18 x 2½.....	1,020	192	174
7 BD.....	526	20 x 3.....	20 x 2½.....	1,475	246	222
8 BD.....	438	24 x 4.....	24 x 3½.....	1,760	324	306
9 BD.....	438	30 x 4.....	30 x 3½.....	2,235	444	414

THE BRIDGEPORT SAFETY EMERY WHEEL CO., BRIDGEPORT,
CONN.—Continued

BRIDGEPORT FLOOR-BUFFING LATHES

[Heavy-duty series—Ball bearing 60 cycles—3 phase]

Type	HP	Speed r. p. m. no load	Weight crated	Price
			<i>Pounds</i>	
15 A. C.	1 1/4	3,600	715	\$210
16 A. C.	3	1,800	810	390
18 A. C.	15	1,800	1,475	582
19 A. C.	20	1,800	1,675	750

BRIDGEPORT FLOOR-BUFFING LATHES

[Heavy-duty series—Ball bearing, alternating current—60 cycle—3 phase]

16 A. C.	5	1,800	<i>Pounds</i> 800	\$402
16 A. C.	7 1/2	1,800	860	428
16 A. C.	7 1/2	3,600	800	440
16 A. C.	10	3,600	860	465
17 A. C.	7 1/2	1,800	950	480
17 A. C.	10	3,600	950	516
17 A. C.	10	1,800	1,000	508
17 A. C.	15	1,800	1,060	540
17 A. C.	15	3,600	1,000	558

[Direct current]

16 D. C.	3	2,500	<i>Pounds</i> 710	\$444
17 D. C.	5	2,450	1,080	552
18 D. C.	5	2,850	1,475	630
19 D. C.	15	2,880	1,675	810

BRIDGEPORT BELT DRIVEN FLOOR BUFFING LATHES

Type	Diameter of spindle in bearings	Distance between wheels	Weight crated	Price with countershaft	Price without countershaft
	<i>Inches</i>	<i>Inches</i>	<i>Pounds</i>		
22.....	1 1/4	48	600	\$126	\$108
23.....	1 1/4	54	745	162	138
24.....	2	64	970	198	174
QB.....	2	48	1,000	228	210
R.....	2	54	1,100	336	318

BRIDGEPORT FLOOR BUFFING LATHES—BALL BEARING

[Alternating current—60 cycles—2 or 3 phase]

Type	HP.	Speed r.p.m. no load	Weight crated	Price
			<i>Pounds</i>	
194.....	2	1,800	530	\$246
194.....	3	3,600	530	240
195.....	5	1,800	790	342
195-A.....	3	1,800	775	314
196.....	7 1/2	3,600	810	350
196.....	10	1,800	980	426
196-A.....	7 1/2	1,800	960	414
196.....	10	3,600	960	422

THE BRIDGEPORT SAFETY EMERY WHEEL CO., BRIDGEPORT,
CONN.—Continued

BRIDGEPORT FLOOR BUFFING LATHES—BALL BEARING
[Alternating current—60 cycles—2 or 3 phase]

Type	HP.	Weight crated	Price
		<i>Pounds</i>	
16 M A. C.	5	1,050	\$630
16 MA A. C.	3	1,020	612
17 A. C.	10	1,300	750
17 MA A. C.	7 1/2	1,260	732

BRIDGEPORT COMBINATION WET AND DRY GRINDERS, HEAVY-DUTY SERIES, BALL
BEARING, MOTOR DRIVE, DIRECT CURRENT—CROCKER-WHEELER MOTORS

BELT DRIVE

Type	Counter- shaft speed r. p. m. new dry wheel 5,500 r. p. m. slow speed	Size of dry wheel in inches	Size of wet wheel in inches	Weight crated	Price with counter- shaft	Price without counter- shaft
				<i>Pounds</i>		
2 BDW.....	658	14 x 2	12 x 2	510	\$354	\$330
6 BDW.....	460	20 x 3	18 x 2 1/2	1,490	486	450
7 BDW.....	403	26 x 4	24 x 3	2,500	618	582

BRIDGEPORT WET TOOL GRINDERS, HIGH OR DROP BOWL

MOTOR DRIVE

Type	HP.	Wheel speed r. p. m.	Size of wheel	Weight crated	Price, D. C. motor	Price, A. C. motor
			<i>Inches</i>	<i>Pounds</i>		
2 TGM ¹	1 1/4	1,090	14 x 2 -6	780	\$318	\$234
3 TGM.....	3	765	20 x 2 1/2 -7	1,160	420	306
3 TGM.....	3	585	26 x 3 -10	1,375	540	426
4 TGM.....	3	510	30 x 4 -12	1,575	600	486
4 1/2 TGM.....	5	425	36 x 4 -22	2,575	780	612
5 TGM.....	5	365	42 x 4 -24	2,800	870	702

BELT DRIVE

Type	Wheel speed r. p. m.	Counter- shaft speed r. p. m.	Size of wheel	Weight crated	Price with counter- shaft	Price without counter- shaft
			<i>Inches</i>	<i>Pounds</i>		
2 TGB ¹	1,090	341	14 x 2 -6	625	\$168	\$156
3 TGB.....	765	287	20 x 2 1/2 -7	1,025	210	192
3 TGB.....	585	242	26 x 3 -10	1,100	330	312
4 TGB.....	510	255	30 x 4 -12	1,325	390	372
4 1/2 TGB.....	425	239	36 x 4 -22	2,000	490	462
5 TGB.....	365	205	42 x 4 -24	2,200	570	552

¹ Not made in drop bowl.

THE BRIDGEPORT SAFETY EMERY WHEEL CO., BRIDGEPORT,
CONN.—Continued

BRIDGEPORT MEDIUM-WEIGHT KNIFE AND FACE GRINDERS

Knife grinders						Face grinder, type S2A sectional wheel 16", A. C. motor drive
Size	Straight wheel 26 x 1¼"		Cup wheel 20 x 8 x 2"		Type S2A sectional wheel 16", A. C. motor drive	
	Belt drive	A. C. motor drive	Belt drive drive	A. C. motor drive		
32"-----	\$630	\$840	\$708	\$978	\$1,434	\$1,374
42"-----	708	918	798	1,068	1,530	1,438
52"-----	798	1,008	912	1,182	1,650	1,590
62"-----	912	1,122	1,014	1,284	1,740	1,644
72"-----	1,008	1,218	1,116	1,386	1,842	1,734
82"-----	1,110	1,320	1,218	1,488	1,944	1,824

For 20" sectional wheel on type S2A machine, add \$20.
Alternating current motor drive: 3 hp. motor is furnished on straight wheel machines, 7 1/2 hp. motor on cup wheel or type S2A machine. Prices are based on squirrel-cage motors, 220/440 or 550 volt, 60 cycle, 2 or 3 phase, with full voltage magnetic starters and push button station.

NO. 94 BRIDGEPORT HEAVY DUTY FACE GRINDER, 42" SECTIONAL WHEEL,
HYDRAULIC DRIVE, TIMKEN-EQUIPPED SPINDLE

Size of machine	Maximum capacity		Approximate weight	Price with A. C. motors as specified below
	Length	Height		
	Inches	Inches	Pounds	
86"	86	33	30,270	\$12,120
110"	110	33	33,270	13,440

Prices given above are on No. 94 Bridgeport face grinder with hydraulic carriage drive and hydraulic automatic feed of grinding wheel head using Oilgear pump and oil motor, with speed range of 5 to 90 feet per minute; 42" sectional grinding wheel mounted in cast steel chuck; 6-T-slot carriage 32" wide; Timken-equipped spindle; motor drive for 220 volts, 60 cycles, 3 phase current, using:
60 hp. A. C. motor, 900 r. p. m. with hand compensator.
7 1/2 hp. A. C. motor, 1,200 r. p. m., with automatic starter (full voltage) and 2 push button stations.
1 hp. A. C. motor, 1,200 r. p. m., with automatic starter and push button station.

NO. 85 BRIDGEPORT HEAVY DUTY FACE GRINDER, 32" SECTIONAL WHEEL,
HYDRAULIC DRIVE, TIMKEN-EQUIPPED SPINDLE

Size of machine	Maximum capacity		Approximate weight	Price with A. C. motors as specified below
	Length	Height		
	Inches	Inches	Pounds	
86"	86	23	22,200	\$8,395
100"	100	(1)	23,620	8,980
110"	110	(1)	24,760	9,380
120"	120	(1)	25,800	9,790
136"	136	(1)	27,400	10,440
154"	154	(1)	29,400	11,195
168"	168	(1)	30,700	11,785
180"	180	(1)	32,100	12,360
216"	216	(1)	35,700	15,840

Prices given above are on No. 85 Bridgeport face grinder with hydraulic carriage drive and hydraulic automatic feed of grinding wheel head using Oilgear pump and oil motor; with speed range of 5 to 90 feet per minute; 32" sectional grinding wheel mounted in cast steel chuck; 5-T-slot carriage, 27" wide; Timken-equipped spindle; motor drive for 220 volt, 60 cycle, 3 phase current using:
40 hp. A. C. motor, 1,200 r. p. m., with hand compensator.
5 hp. A. C. motor, 1,200 r. p. m. (on 86" machine) (7 1/2 hp. on longer), with magnetic starter and push button station.

¹ NOTE.—32" x 42" chucks, when specially ordered, may be fitted to carry blocks 3" face instead of 4" increasing capacity of No. 85 face grinder from 23" to 25" and the 94 from 33" to 35" in height.

THE BRIDGEPORT SAFETY EMERY WHEEL CO., BRIDGEPORT,
CONN.—Continued

NO. 75 BRIDGEPORT HEAVY DUTY KNIFE AND FACE GRINDER 26" SECTIONAL
WHEEL, HYDRAULIC DRIVE, TIMKEN-EQUIPPED SPINDLE

Size	Price with A. C. motors as specified below			Approximate weight without knife or angle bars	Maximum capacity length (height 19 1/4")	
	Without knife bar	With angle bar	With reg. revolving bar		As face grinder or with angle bar	With revolving bar
				Pounds	Inches	Inches
60"	\$6,310	\$6,395	\$6,455	13,620	60	52
70"	6,480	6,580	6,635	14,330	70	62
80"	6,650	6,760	6,810	15,100	80	72
90"	6,815	6,950	6,985	15,830	90	82
100"	6,985	7,135	7,210	16,550	100	92
110"	7,150	7,315	7,390	17,320	110	102
120"	7,320	7,495	7,565	18,050	120	112
136"	7,600	7,800	7,865	19,350	136	128
154"	7,990	8,160	8,235	20,660	154	146
168"	8,135	8,380	8,470	21,530	168	158
180"	8,615	8,880	8,965	22,520	180	172
190"	8,975	9,260	9,335	23,200	190	182
210"	9,680	9,990	10,065	23,900	210	202
216"	9,875	10,200	10,290	24,370	216	208

Prices given above are on No. 75 Bridgeport heavy-duty knife and face grinder with hydraulic carriage drive and hydraulic automatic feed of grinding wheel head, using Oilgear pump and oil motor, with speed range of 5 to 90 feet per minute; 26" sectional grinding wheel mounted in cast steel chuck; 3-T-slot carriage 22" wide; Timken-equipped spindle; motor drive for 220/440 or 550 volt, 60 cycle, 3 phase current using:
20 hp. A. C. motor, 1,200 r. p. m. (on 60" to 136" sizes).
5 hp. A. C. motor, 1,200 r. p. m. (on 154" to 216" sizes).
7 1/2 hp. A. C. motor, 1,200 r. p. m. (on 154" to 216" sizes).

NO. 179 BRIDGEPORT HEAVY DUTY KNIFE AND FACE GRINDER, 26" SECTIONAL
WHEEL, ON LEG BED

Size	Without knife bar	With angle bar	With re- volving bar	Approximate weight revolving bar or angle bar	As face grinder or with angle bar	
					Inches	Inches
				Pounds		
50"	\$2,725	\$2,810	\$2,870	8,000	60	52
60"	2,830	2,935	2,990	8,325	70	62
70"	2,940	3,055	3,100	8,750	80	72
80"	3,050	3,180	3,215	9,050	90	82
90"	3,155	3,305	3,385	9,475	100	92
100"	3,265	3,425	3,505	9,750	110	102
110"	3,565	3,740	3,810	10,100	120	112
120"	3,820	4,020	4,085	10,725	136	128
144"	4,100	4,325	4,420	11,290	154	146
156"	4,290	4,535	4,625	11,650	168	158
170"	4,625	4,890	4,975	12,125	180	172
180"	4,865	5,150	5,225	12,400	190	182

Prices given above are on No. 179 Bridgeport heavy-duty knife and face grinder; 26" sectional grinding wheel mounted in cast steel chuck; 3-T-slot carriage; motor drive for 220, 440 or 550 volt, 60 cycle, 3 phase current using 15 hp. A. C. motor, 1,200 r. p. m. with automatic starter and push-button station.
All A. C. motors are normal torque, normal starting current, constant speed, with squirrel cage motor, with starters having overload and under-voltage protection. All D. C. motors are shunt wound, constant speed.

THE BRIDGEPORT SAFETY EMERY WHEEL CO., BRIDGEPORT,
CONN.—Continued

NO. 180 BRIDGEPORT HEAVY-DUTY KNIFE AND FACE GRINDER, 26" SECTIONAL
WHEEL

Size	Price with 20 hp. A. C. motor			Approximate weight revolving bar or angle bar	Maximum capacity length—height 15"	
	Without knife bar	With angle bar	With revolving bar		As face grinder or with angle bar	With revolving bar
50"	\$3,920	\$4,030	\$4,060	Pounds 8,630	Inches 60	Inches 52
60"	4,040	4,140	4,195	9,160	70	62
70"	4,160	4,270	4,320	9,700	80	72
80"	4,280	4,410	4,445	10,200	90	82
90"	4,400	4,550	4,625	10,750	100	92
100"	4,520	4,680	4,760	11,280	110	102
110"	4,640	4,800	4,880	11,800	120	112
120"	4,760	4,920	5,000	12,320	130	122
130"	4,880	5,040	5,120	12,840	140	132
140"	5,000	5,160	5,240	13,360	150	142
150"	5,120	5,280	5,360	13,880	160	152
160"	5,240	5,400	5,480	14,400	170	162
170"	5,360	5,520	5,600	14,920	180	172
180"	5,480	5,640	5,720	15,440	190	182
190"	5,600	5,760	5,840	15,960	200	192
200"	5,720	5,880	5,960	16,480	210	202
210"	5,840	6,000	6,080	17,000	220	212
220"	5,960	6,120	6,200	17,520	230	222
230"	6,080	6,240	6,320	18,040	240	232
240"	6,200	6,360	6,440	18,560	250	242
250"	6,320	6,480	6,560	19,080	260	252
260"	6,440	6,600	6,680	19,600	270	262
270"	6,560	6,720	6,800	20,120	280	272
280"	6,680	6,840	6,920	20,640	290	282
290"	6,800	6,960	7,040	21,160	300	292
300"	6,920	7,080	7,160	21,680	310	302
310"	7,040	7,200	7,280	22,200	320	312
320"	7,160	7,320	7,400	22,720	330	322
330"	7,280	7,440	7,520	23,240	340	332
340"	7,400	7,560	7,640	23,760	350	342
350"	7,520	7,680	7,760	24,280	360	352
360"	7,640	7,800	7,880	24,800	370	362
370"	7,760	7,920	8,000	25,320	380	372
380"	7,880	8,040	8,120	25,840	390	382
390"	8,000	8,160	8,240	26,360	400	392
400"	8,120	8,280	8,360	26,880	410	402
410"	8,240	8,400	8,480	27,400	420	412
420"	8,360	8,520	8,600	27,920	430	422
430"	8,480	8,640	8,720	28,440	440	432
440"	8,600	8,760	8,840	28,960	450	442
450"	8,720	8,880	8,960	29,480	460	452
460"	8,840	9,000	9,080	30,000	470	462
470"	8,960	9,120	9,200	30,520	480	472
480"	9,080	9,240	9,320	31,040	490	482
490"	9,200	9,360	9,440	31,560	500	492
500"	9,320	9,480	9,560	32,080	510	502
510"	9,440	9,600	9,680	32,600	520	512
520"	9,560	9,720	9,800	33,120	530	522
530"	9,680	9,840	9,920	33,640	540	532
540"	9,800	9,960	10,040	34,160	550	542
550"	9,920	10,080	10,160	34,680	560	552
560"	10,040	10,200	10,280	35,200	570	562
570"	10,160	10,320	10,400	35,720	580	572
580"	10,280	10,440	10,520	36,240	590	582
590"	10,400	10,560	10,640	36,760	600	592
600"	10,520	10,680	10,760	37,280	610	602
610"	10,640	10,800	10,880	37,800	620	612
620"	10,760	10,920	10,960	38,320	630	622
630"	10,880	11,040	11,120	38,840	640	632
640"	11,000	11,160	11,240	39,360	650	642
650"	11,120	11,280	11,360	39,880	660	652
660"	11,240	11,400	11,480	40,400	670	662
670"	11,360	11,520	11,600	40,920	680	672
680"	11,480	11,640	11,720	41,440	690	682
690"	11,600	11,760	11,840	41,960	700	692
700"	11,720	11,880	11,960	42,480	710	702
710"	11,840	12,000	12,080	43,000	720	712
720"	11,960	12,120	12,200	43,520	730	722
730"	12,080	12,240	12,320	44,040	740	732
740"	12,200	12,360	12,440	44,560	750	742
750"	12,320	12,480	12,560	45,080	760	752
760"	12,440	12,600	12,680	45,600	770	762
770"	12,560	12,720	12,800	46,120	780	772
780"	12,680	12,840	12,920	46,640	790	782
790"	12,800	12,960	13,040	47,160	800	792
800"	12,920	13,080	13,160	47,680	810	802
810"	13,040	13,200	13,280	48,200	820	812
820"	13,160	13,320	13,400	48,720	830	822
830"	13,280	13,440	13,520	49,240	840	832
840"	13,400	13,560	13,640	49,760	850	842
850"	13,520	13,680	13,760	50,280	860	852
860"	13,640	13,800	13,880	50,800	870	862
870"	13,760	13,920	14,000	51,320	880	872
880"	13,880	14,040	14,120	51,840	890	882
890"	14,000	14,160	14,240	52,360	900	892
900"	14,120	14,280	14,360	52,880	910	902
910"	14,240	14,400	14,480	53,400	920	912
920"	14,360	14,520	14,600	53,920	930	922
930"	14,480	14,640	14,720	54,440	940	932
940"	14,600	14,760	14,840	54,960	950	942
950"	14,720	14,880	14,960	55,480	960	952
960"	14,840	15,000	15,080	56,000	970	962
970"	14,960	15,120	15,200	56,520	980	972
980"	15,080	15,240	15,320	57,040	990	982
990"	15,200	15,360	15,440	57,560	1000	992

Prices given above are on No. 180 Bridgeport heavy-duty knife and face grinder, cabinet base; 26" sectional grinding wheel mounted in cast steel chuck; 3-T-slot carriage; motor drive for 220 volt, 60 cycle, 3 phase current using: 20 hp. A. C. motor, 1,200 r. p. m. with magnetic starter and push-button station.

BROWN & SHARPE MANUFACTURING CO., PROVIDENCE, R. I.

MILLING MACHINES (FITTED WITH MOTORS)

Type	Capacity			Working surface of table	Weight	Price
	Length	Trans.	Vert.			
Plain:	Inches	Inches	Inches	Inches	Pounds	
2 light	28	10	15	45 x 10	2,700	\$3,410
2 light—with power fast travel	28	10	15	45 x 10	2,700	3,375
2-B standard	28	10	15	51 3/4 x 11 1/4	4,525	4,575
2-B dual control	28	10	15	51 3/4 x 11 1/4	4,575	5,070
3-B standard	34	12	19 1/2	60 1/4 x 14	5,825	5,745
3-B dual control	34	12	19 1/2	60 1/4 x 14	5,875	6,350
000	51 1/4	2	5 1/2	25 3/4 x 7 3/8	1,650	1,600
10	12	2	11 1/4	48 3/4 x 12	2,920	3,366
12	18	3 1/4	10 1/2	48 3/4 x 12	4,375	4,175
Universal:						
2-A (std.)	28	10	17 1/2	51 3/4 x 11 1/4	4,825	5,400
2-A (dual cont.)	28	10	17 1/2	51 3/4 x 11 1/4	4,875	5,895
3-A (std.)	34	12	18 1/2	60 1/4 x 14	6,200	6,680
3-A (dual cont.)	34	12	18 1/2	60 1/4 x 14	6,250	7,285
2 light	28	10	16	45 x 10	2,950	4,070
2 light—with power fast travel	28	10	15	45 x 10	2,950	4,028
2 light	28	10	14	45 x 10	2,900	4,180
2 light—with high speed spindle	28	10	14	45 x 10	2,900	4,430
2 light—with power fast travel	28	10	14	45 x 10	2,900	4,140
2 light—with power fast travel & H. S. S. ¹	28	10	14	45 x 10	2,900	4,388
2 standard	28	12	20	54 1/4 x 14	6,100	6,540
Omniuniversal	17	5 3/4	15	34 1/2 x 9	3,300	6,210

¹ See notation at end.

² With power fast travel and high speed spindle arrangement.

BROWN & SHARPE MANUFACTURING CO., PROVIDENCE, R. I.—Con.
GRINDERS

Type	Center diameter	Swing length	Weight	Price
	Inches	Inches	Pounds	
Plain, fitted with motors, complete:	3	12	2,610	\$3,265
5	6	18	5,100	4,455
10	6	30	5,400	4,730
12	10	18	8,500	7,180
20	10	18	8,500	6,642
20-A	10	36	9,100	7,510
22	10	36	9,100	6,970
22-A	10	20	2,650	3,580
Universal:	10	24	2,750	2,674
1 fitted with motors	14	30	4,825	5,090
1 complete with countershaft	14	40	5,470	5,495
2 fitted with motors	14	60	8,825	6,890
3 fitted with motors	14	60	8,825	6,890
4 fitted with motors	14	60	8,825	6,890
Univ. and tool:	8	24	2,450	2,735
13 fitted with motors	8	24	2,540	2,290
13 overhead drive, complete with countershaft	10	20	1,045	1,165
Cutter and tool				

Type	Work capacity		Weight	Price
	Length	Width		
	Inches	Inches	Pounds	
Surface grinders:	18	6	1,330	\$1,165
2 fitted to receive motor	18	6	1,230	1,000
2-B (with hand feeds) fitted with motors	18	6	1,375	1,008
2 overhead drive complete with countershaft	18	6	1,325	846
2-B (with hand feeds) overhead drive complete with countershaft	24	8	2,500	2,035
5 fitted with motors				

AUTOMATIC SCREW MACHINES—HIGH SPEED

Model No.	Capacity work diameter	Geared for motor drive, fitted to receive motor		Complete with countershaft	
		Weight	Price	Weight	Price
	3/4"	Pounds 1,725	\$3,060	Pounds 975	\$2,420
00	5/8"	2,350	3,765	1,530	3,145
0	1"	2,875	4,275	2,075	3,695
2					

AUTOMATIC SCREW THREADING MACHINES—HIGH SPEED

Model No.	Capacity work diameter	Geared for motor drive, fitted to receive motor		Complete with countershaft	
		Weight	Price	Weight	Price
No. 00G—For motor drive only. Fitted to receive motor. Takes work to 3/4"				Pounds 1,575	\$3,080
No. 00—Complete with countershaft. Takes work to 3/4" diameter				1,290	2,600

AUTOMATIC TURRET FORMING MACHINES—HIGH SPEED

Model No.	Capacity work diameter	Geared for motor drive, fitted to receive motor		Complete with countershaft	
		Weight	Price	Weight	Price
	3/4"	Pounds 1,450	\$2,817	Pounds 950	\$2,178
00	5/8"	1,925	3,465	1,410	2,853
0	1"	2,500	4,920	1,985	3,332
2					

BROWN & SHARPE MANUFACTURING CO., PROVIDENCE, R. I.—Con.
AUTOMATIC CUTTING OFF MACHINES—HIGH SPEED

00.....	3/4"	1,450	\$2,800	950	\$2,220
0.....	5/8"	1,925	3,540	1,390	2,920
2.....	1"	2,500	4,025	1,935	3,445

WIRE FEED SCREW MACHINES

0.....	3/8"	1,030	\$1,955	760	\$1,660
1.....	5/8"	1,300	2,140	1,025	1,815
2.....	1"	1,450	2,685	1,525	2,300

NOTE.—Price corrections advised by manufacturer differ from those shown in first edition of "Prices of New Machine Tools."

OBSOLETE MACHINES

[Use equivalent as shown]

BROWN & SHARPE

AUTOMATIC SCREW MACHINES

No. 1. Compared to Brown & Sharpe No. 2.....	\$4,065
No. 4. } Compared to Cleveland A-2".....	5,450
No. 6. }	
No. 19. Compared to Brown & Sharpe OOG Auto. Screw cap. 3/4".....	3,390

BORING MILLS—VERTICAL

Compare to Rogers Machine Works.

GEAR CUTTERS

No. 13. Compared to Gould & Eberhardt 36-B.	
No. 13H. Compared to Gould & Eberhardt 36-B.	
Others compared to Newark Gear Cutting Machine Company.	

GEAR HOBBSERS

No. 34. Compared to Gould & Eberhardt 24 H. S.	
No. 44. Compared to Gould & Eberhardt 24H.	

GRINDERS (CYLINDRICAL)

No. 14. Plain compared to Brown & Sharpe No. 22.....	8,260
No. 16. 11 x 72 cyl. compared to Landis 12 x 72 Type C.....	7,925
No. 21. Universal compared to Landis Type C Univ. 14 x 36.....	6,805
No. 30A. Plain compared to Brown & Sharpe 20A.....	7,380

GRINDERS (INTERNAL)

No. 22. }.....	2,100
No. 23. }	

GRINDERS (PLANNER TYPE)

No. 3. 3' table.....	1,500
No. 5. 5' table.....	2,000

GRINDERS (TOOL AND CUTTER)

Compared to Gallmeyer & Livingstone

HAND SCREW MACHINES

No. 0. } Use prices in book.	
No. 1. }	
No. 2. }	
No. 6. Compared to Warner & Swasey No. 5 Univ. (Plain cross slide).....	4,715
No. 4. Compared to Warner & Swasey No. 3 Univ. (Plain cross slide).....	3,500

BROWN & SHARPE—Continued

MILLS—PLAIN

Size	Comparison	Price
No. 00 (hand mill).....	U. S. Machine Tool.....	\$350
No. 0.....		1,650
No. 1 (without back gears).....	No. 1 Kempsmith Cone, Plain.....	1,750
No. 1 (with back gears).....	No. 1 Kempsmith Cone, Plain.....	1,950
No. 1 1/2.....		1,950
No. 0Y.....		1,650
No. 1Y.....	Cincinnati (L) Type, No. 2 Pl.....	1,750
No. 1B.....	No. 2 Kempsmith Plain, cone.....	3,805
No. 2Y.....		2,250
No. 4 Plain.....	Cincinnati Dial Type, Pl.....	7,970
No. 4B.....	Cincinnati No. 4 high power, pl.....	8,125
No. 4B Heavy.....	Cincinnati No. 5 high power pl.....	8,930
No. 5.....		7,970
No. 5B.....	Cincinnati No. 4, Plain.....	4,500
No. 24.....		4,500
No. 21.....		4,500
No. 22.....		4,500
No. 33.....	Kempsmith No. 33.....	4,500

MILLS—UNIVERSAL

No. 4A.....	Cincinnati No. 4 Dial Type, medium speed.....	\$9,680
No. 4A heavy.....	Cincinnati No. 4 Dial Type, high speed.....	10,500
No. 1.....	Kempsmith No. 1 Universal.....	2,625
No. 1A.....	Brown & Sharpe No. 2 Univ. light type.....	4,290
No. 1D.....	Kempsmith No. 1 Univ.....	2,625
No. 13B.....	Production Mill comp. to No. 12.....	4,290
No. 1 1/2.....	Brown & Sharpe No. 2 Univ. light type.....	

MILLS—VERTICAL

No. 1. Standard compared to Brown & Sharpe No. 2.....	\$4,415
No. 2. Standard compared to Brown & Sharpe No. 2 (light type).....	4,415
No. 3. Standard compared to Brown & Sharpe No. 2 (stan. type).....	7,020

MILLS—LINCOLN TYPE

No. 11.....	\$4,000
No. 12.....	
No. 13.....	4,595
No. 13-B.....	
Others.....	Gooley & Edlund

BRYANT CHUCKING GRINDER CO., SPRINGFIELD, VT.

INTERNAL GRINDERS

Machine	Net weight	Present selling price	Machine	Net weight	Present selling price
No. 4.....	Pounds 2,450	\$5,600	No. 16-A, 22".....	8,175	\$9,450
No. 4-B.....	2,875	7,000	No. 16-A, 28".....	8,450	8,845
No. 5.....	2,250	4,200	No. 16-A, 38".....	8,700	9,450
No. 5-A.....	2,500	5,925	No. 16-C, 16".....	7,050	7,350
No. 5-B.....	2,650	5,550	No. 16-C, 16".....	12,000	9,650
No. 16, 16".....	7,000	6,500	No. 24, 28".....	13,500	11,500
No. 16, 22".....	7,750	7,950	No. 24-L, 26".....	12,750	12,300
No. 16, 28".....	8,200	7,500	No. 24-L, 36".....	14,650	14,200
No. 16, 38".....	7,750	8,100	No. 112.....	5,500	7,240
No. 16-A, 16".....	7,815	7,795			

BUFFALO FORGE COMPANY, BUFFALO, N. Y.

DRILLING MACHINES

- No. 13. Simplex. Capacity— $\frac{1}{2}$ ". Speeds—855, 1,210, 2,380, 3,400 r. p. m. Type—medium and high speed, ball bearing, bench, $\frac{1}{4}$ " geared chuck: \$24
Motor drive—less motor

EXTRAS

- No. 14. Hi-Speed. Capacity— $\frac{1}{4}$ ", $\frac{3}{8}$ ", or $\frac{1}{2}$ ", maximum according to speed range selected. Speeds—600 to 9,600 r. p. m. Type—high speed, precision, all ball bearing, with individual motor drive. $\frac{3}{8}$ " or $\frac{1}{2}$ " balanced chuck or No. 1 Morse Taper optional: \$225
Round column, floor type
Spindles—Pedestal
One 345
Two 650
Three 975
Four 1,225
Six 1,850
Motors—each spindle not less than $\frac{1}{2}$ hp.

EXTRAS

- Morse taper No. 2 spindle 10
Morse taper No. 1 spindle Optional
No. 15. Universal. Capacity— $\frac{1}{2}$ ". Type—All ball bearing metal and wood working—medium and high speed. $\frac{1}{4}$ " geared chuck: \$215
15P. Pedestal type—single spindle 310
15P. Pedestal type—two spindle 385
15P. Pedestal type—three spindle 510
15P. Pedestal type—four spindle 800
15P. Pedestal type—six spindle 48
15F. Floor type 65
15M. Manufacturing, single 135
15M. Manufacturing, two spindle 205
15M. Manufacturing, three spindle 280
15M. Manufacturing, four spindle 145
15T. Tapper, $\frac{1}{4}$ " capacity 160
 $\frac{1}{2}$ " capacity 36
15. Head, column, adapter only 45
15M. Head, column, adapter only 33
15. Head only 40
15M. Head only 40
No. 16. Sensitive. Capacity— $\frac{1}{8}$ " in steel. Speeds—400, 670, 1,100, 1,800, 3,000 r. p. m. Type—sliding head, sensitive, direct-belted motor: \$160
Round column, floor type
Spindles—Pedestal
One 300
Two 535
Three 800
Four 1,050
Six 1,500
Motors— $\frac{1}{2}$ to $\frac{3}{4}$ hp. at 1,750 r. p. m.—select power and speed to suit application.

EXTRAS

- Power feed \$185
12" Overhang, per spindle 45
15" Overhang, per spindle 60
For other extras see price sheet No. 3002.
No. 18. Stationary head, Sensitive. Capacity—1" in cast iron or brass. Type—All ball bearing. Five speeds, 400 to 3,000 r. p. m.: \$170
18A. Floor type 155
18B. Floor type 150
18C. Floor type 135
18D. Floor type 160
18E. Floor type 150
18F. Floor type 145
18G. Floor type 120
18H. Floor type 140
18I. Floor type

BUFFALO FORGE COMPANY, BUFFALO, N. Y.—Continued

EXTRAS—continued

- No. 18. 18J. Floor type \$125
18K. Floor type 120
18L. Floor type 110
18. Single spindle, pedestal 320
18. Two spindle, pedestal 530
18. Three spindle, pedestal 725
18. Four spindle, pedestal 985
18. Six spindle, pedestal 1,350
Tapping attachment, $\frac{1}{4}$ " cap 110
Head column and adapter with head raising device 115
Standard head, column and adapter 95
Motors recommended— $\frac{1}{4}$ or $\frac{1}{2}$ hp.—1,750 r. p. m.
No. 21. Stationary head. Capacity—1 $\frac{1}{2}$ " in cast iron. Type—stationary head, flat belt, back-geared. 00
Tight and loose pulley drive
Motor—1 hp. at 1,750 r. p. m.
Tapping—use reversing motor control.

EXTRAS

1. Motor drive—top mounting—V-belted 50
3. Deduct for omission of power feed 20
4. Deduct for omission of back gears 15
No. 22. Drill. Capacity—1 $\frac{1}{2}$ " in steel. Speed—65, 96, 150, 230, 400, 575, 900, 1,350 r. p. m. Type—sliding head, power feed, back-geared, single or multiple spindles: 560
Round column type—single spindle 685
Pedestal type—square table—single spindle 1,400
Pedestal type—two spindles 2,200
Pedestal type—three spindles 2,900
Pedestal type—four spindles 4,500
Pedestal type—six spindles
Motor—1 to 3 hp. at 1,200 r. p. m. Select power and speed to fit application.
No. 25. Stationary head. Capacity—1 $\frac{1}{2}$ " in cast iron. Type—stationary head, back-geared, flat belt. 525
Tight and loose pulley drive
Motors—2 hp. at 1,750 r. p. m. (See Sheet No. 2969-J. Tapping—use reversing motor control.

EXTRAS

4. Deduct for omission of power feed 25
5. Deduct for omission of back gear 20

No. 2 MOTOR SPINDLE DRILLS

[1 to 6 spindles—8" and 13" overhang—1" capacity]

Number of spindles	Type S 8" overhang		Type S 13" overhang		Coolant system	T-slot in table or wear plate, price, each	Wear plate
	Price	Code	Price	Code			Price
One	\$700	ALIZN	\$765	ALKAR	\$100	\$15	\$25
Two	1,200	ALJAP	1,380	ALKES	110	18	40
Three	1,700	ALJER	1,995	ALKIT	120	21	60
Four	2,225	ALJIS	2,635	ALKOV	130	24	85
Five	2,775	ALJOT	3,300	ALKUW	140	27	110
Six	3,350	ALJUV	3,995	ALLAS	150	30	140

¹ Sensitive machine, without back gears or power feed. Above prices include motors and magnetic controls.

BUFFALO FORGE COMPANY, BUFFALO, N. Y.—Continued

EXTRAS

Ball bearing back gears (per spindle).....	\$150	Head only (above pedestal) including motor and magnetic control:	
Power feed (per spindle).....	195	8" overhang.....	425
Motor reverse tapping (per spindle).....	110	13" overhang.....	465
Compound table.....	325	Pedestal and table assembly:	
		8" overhang.....	525
1 Spindle.....	\$275	13" overhang.....	775
2 Spindles.....	350	5 Spindles.....	650
3 Spindles.....	425	6 Spindles.....	800

NO. 3 MOTOR SPINDLE DRILLS

[1 to 6 spindles—13" overhang—1½" capacity]

Number of spindles	Type S 13" overhang		Coolant system	T-slots in table or wear plate, price, each	Wear plate
	Price	Code	Price		Price
One.....	\$1,150	ALIPD	\$100	\$15	\$25
Two.....	2,150	ALIRF	110	18	40
Three.....	3,150	ALISG	120	21	60
Four.....	4,175	ALITH	130	24	85
Five.....	5,225	ALIVJ	140	27	110
Six.....	6,300	ALIXL	150	30	140

¹ Sensitive machine, without back gears or power feed. Above prices include motors and magnetic controls.

EXTRAS

Ball-bearing back gear (per spindle).....	\$150	Pedestal and Table Assembly:	
Power feed (per spindle).....	250	1. Spindle.....	\$300
Motor reverse tapping (per spindle).....	110	2. Spindle.....	450
Compound table.....	325	3. Spindle.....	600
Head only (above pedestal including motor and magnetic control).....	850	4. Spindle.....	775
		5. Spindle.....	975
		6. Spindle.....	1,200

NO. 2 "RPMSTER"

[1 to 6 spindles—13" overhang—1" capacity]

Number of spindles	Type S 13" overhang		Coolant system	T-slots in table or wear plate, price, each	Wear plate
	Price	Code	Price		Price
One.....	\$850	ALMOX	\$100	\$15	\$25
Two.....	1,550	ALMUY	110	18	40
Three.....	2,250	ALNAV	120	21	60
Four.....	2,975	ALNEW	130	24	85
Five.....	3,725	ALNIX	140	27	110
Six.....	4,500	ALNOY	150	30	140

¹ Sensitive machine, without back gears or power feed. Above prices include motors and magnetic controls.

EXTRAS

Ball-bearing back gear (per spindle).....	\$150	Pedestal and table assembly:	
Power feed (per spindle).....	195	1. Spindle.....	\$300
Compound table (single spindle units only).....	325	2. Spindle.....	450
		3. Spindle.....	600
		4. Spindle.....	775
		5. Spindle.....	975
		6. Spindle.....	1,200

BUFFALO FORGE COMPANY, BUFFALO, N. Y.—Continued

NO. 3 "RPMSTER"

[1 to 6 spindles—13" overhang—1½" capacity]

Number of spindles	Type S 13" overhang, price	Coolant system, price	T-slots in table or wear plate, price, each	Wear plate, price
One.....	\$1,050	\$100	\$15	\$25
Two.....	1,950	110	18	40
Three.....	2,850	120	21	60
Four.....	3,775	130	24	85
Five.....	4,725	140	27	110
Six.....	5,700	150	30	140

¹ Sensitive machine, without back gears or power feed. Above prices include motors and magnetic controls.

EXTRAS

Ball bearing back gear (per spindle).....	\$150	Pedestal and table assembly:	
Power feed (per spindle).....	250	1. Spindle.....	300
Compound table (single spindle units only).....	325	2. Spindle.....	450
		3. Spindle.....	600
		4. Spindle.....	775
		5. Spindle.....	975
		6. Spindle.....	1,200

Item No.		Drill No.		
		14	16	22
26	Coolant system, Buffalo motor pump, control, valves, and tank complete:			
	1 spindle.....	\$100	\$100	\$100
	Per spindle added.....	15	15	15
29	Deduct for omission of one drilling head from any multiple spindle machine.....	145	110	400
	Pedestal, base, and table unit only, without heads:			
30	1 valve.....	180	180	240
31	2 valves.....	280	280	480
32	3 valves.....	415	415	880
33	4 valves.....	525	525	1,140
34	6 valves.....	700	700	

2-PLUNGER MACHINES

Universal Iron Workers Type: U. I. W.

Machine numbers.....	0	½	1½	2½	3½	1	2
Bar cutter, capacity std. knives:							
Rounds.....	1¼	1¾	1¾	2¼	2¼	1¾	1¾
Squares.....	1½	1½	1¾	2	2	1½	1¾
Angles, square.....	3 x ¾	4 x ½	4 x ¾	6 x ½	6 x ½	4 x ¾	4 x ¾
Angles, mitre.....	2 x ¾	3 x ¾	3 x ¾	4 x ½	4 x ½	3 x ¾	3 x ¾
Tees, square.....	2½ x 4	3 x ¾	4 x ¾	4 x 5 x ½	4 x 5 x ½	3 x ¾	4 x ¾
Bar cutter, capacity special knives:							
Beams.....	4"-7½"	5"-12¼"	6"-14¾"	9"-21.8"	9"-21.8"	5"-9¾"	6"-12¼"
Channels.....	5"-6½"	7"-12¼"	8"-13¾"	10"-20"	10"-20"	7"-9¾"	8"-11½"
Angles, square.....	4 x 4 x ¼	3½ x 6 x ¾	5 x 5 x ¾	3½ x 7 x ½	3½ x 7 x ½	3½ x 6 x ¾	5 x 5 x ¾
Angles, square.....	3 x 4 x ¾	3½ x 5 x ¾	4 x 6 x ¾	4 x 6 x ¾	4 x 6 x ¾	3½ x 5 x ¾	4 x 6 x ¾
Angles, flare.....	4 x 5 x ¾	5 x 5 x ¾	6 x 6 x ¾	6 x 6 x ¾	6 x 6 x ¾	5 x 5 x ¾	6 x 6 x ¾
H Columns.....			4"-13½"	6"-20"	6"-20"		4"-13.5"
Beams.....	3 x 3 x ¾	4 x 4 x ¾	4 x 4 x ¾	4 x 4 x ¾	4 x 4 x ¾		
Specifications:							
H. P. motor.....	2	3	5	10	10	3	5
R. P. M. motor.....			1,500 or 1,800				
Weight, pounds.....	1,900	3,650	5,300	7,000	9,000	5,860	9,200
Ram pressure—tons.....	30	50	65	85	85	50	65
Built-in square copier on shear end:							
Capacity:							
Angles.....	3 x ¾	3 x ¾	3 x ¾	4 x ½	4 x ½	3 x ¾	3 x ¾
Tees.....	2 x ¾	3 x ¾	3 x ¾	4 x ½	4 x ½	3 x ¾	3 x ¾
Flanges of beams.....	3 to 4	3 to 6	3 to 7	4 to 10	4 to 10	3 to 6	3 to 7
Flanges of channels.....	3	3 to 6	3 to 7	4 to 9	4 to 9	3 to 6	3 to 7
Plates.....	¼	¾	½	½	½	¾	½
Width of cut.....	2	2	2	2½	2½	2	2

BUFFALO FORGE COMPANY, BUFFALO, N. Y.—Continued

2-PLUNGER MACHINES—Continued

Universal Iron Workers Type: U. I. W.—Continued

Machine numbers	0	1/2	1 1/2	2 1/2	2 3/4	1	2
Depth of cut	2 3/4	3	3	3 1/2	3 1/2	3	3 1/4 x 3/4
Punch capacity	1 1/2 x 3/4	1 x 3/4	1 1/2 x 3/4	1 1/2 x 3/4	1 1/2 x 3/4	1 x 1/2	1 1/4 x 3/4
Shear capacity: Plates (through center)	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Plates—Trim only	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Plates—With standard knives	4 x 1/2	6 x 3/4	6 x 3/4	8 x 3/4	8 x 3/4	6 x 3/4	6 x 3/4
Trim 1 leg of angles	2 1/2 x 3/4	3 x 1/2	4 x 3/4	6	6	3 x 1/2	4 x 3/4
Length of knives—Inches	8	10	12	14	14	10	12

NOTE.—For holes larger in diameter than the rated capacity, special oversize punches, dies, couplings, sockets, strippers, and die blocks are required. Prices depend on the largest holes and are given on application.

2-PLUNGER MACHINES—TYPE: U. I. W.

Machine numbers	0	1/2	1 1/2	2 1/2	2 3/4	1	2
Prices, pulley drive:							
Machine equipped as per note No. 1	\$1,050	\$1,500	\$2,300	\$3,000	\$3,500	\$1,975	\$2,750
Machine including built-in notcher-punch	1,240	1,720	2,550	3,300	3,800	2,195	3,000
Machine including built-in notcher-shear	1,290	1,800	2,650	3,400	3,900	2,275	3,100
Machine including built-in coper-shear	1,200	1,800	2,650	3,400	3,900	2,275	3,100
Machine including built-in notcher and coper	1,480	2,020	2,900	3,700	4,200	2,495	3,350
Prices, arranged for motor drive:							
Machine equipped as per Note 1	1,125	1,600	2,425	3,135	3,635	2,298	3,125
Machine including built-in notcher-punch	1,315	1,820	2,675	3,435	3,935	2,375	3,225
Machine including built-in notcher-shear	1,365	1,900	2,775	3,535	4,035	2,375	3,225
Machine including built-in coper-shear	1,365	1,900	2,775	3,535	4,035	2,375	3,225
Machine including built-in notcher and coper	1,555	2,120	3,025	3,835	4,335	2,895	3,475

PUNCHES, SLITTING SHEARS AND BAR-CUTTERS—TYPE: U. D. 3-PLUNGER TYPE—FIXED THROAT DEPTH

Machine numbers	2 1/2	3 1/2	4 1/2
Punch capacity	1 1/2 x 3/4, 1 x 3/4	1 1/2 x 3/4, 1 x 3/4	1 1/2 x 3/4, 1 x 3/4
Shear capacity:			
Plates—(through center)	3/4	3/4	1 1/4
Trim only	3/4	3/4	1 1/4
Plates:			
With standard knives	6 x 3/4	7 x 1	7 1/2 x 1 1/4
With special upper knives	3 x 3/4	3 1/2 x 1	4 x 1 1/2
With special upper knives	10 1/4 x 1/2	12 x 1/2	14 x 3/4
Trim one leg of angles	6 x 3/4	6 x 3/4	6 x 1
Length of knives, inches	12	13 1/2	16 1/2
Bar cutter, capacity std. knives:			
Rounds	2 1/4	2 1/2	3
Squares	6 x 1/2	6 x 3/4	6 x 3/4
Angles, square	4 x 1/2	4 x 3/4	6 1/2 x 6 1/2 x 1 1/2
Angles, mitre	4 x 5 x 1/2	4 x 5 x 3/4	
Tees, square			
Bar cutter—capacity special knives:			
Beams	9"—21/8 #	10"—30 #	12"—35 #
Channels	10"—20 #	10"—30 #	12"—35 #
Angles, square	3 1/2 x 7 x 1/2	6 x 8 x 1/2	8 x 8 x 3/4
Angles, flare	6 x 6 x 3/4	6 x 6 x 3/4	8 x 8 x 3/4
H columns	6"—20 #	8"—25 #	10"—35 #
B beams	9"—20 1/2 #	12"—30 #	
Tees	4 x 4 x 3/4	6 1/2 x 6 1/2 x 1 1/2	
Specifications:			
Hp motor	10	15	20
R. p. m. motor	1,500 or 1,800	1,500 or 1,800	1,500 or 1,800
Weight, including export packing, pounds	9,800	14,000	35,000
Ram pressure, tons	85	110	190
Prices, pulley drive:			
Machine equipped as per Note No. 1	\$3,550	\$4,800	\$8,550
Machine, including built-in notcher-punch	3,850	5,150	9,300
Prices, arranged for motor drive:			
Machine equipped as per note No. 1	3,685	4,950	9,040
Machine including built-in notcher-punch	3,985	5,300	9,490

BUFFALO FORGE COMPANY, BUFFALO, N. Y.—Continued

SAME AS ABOVE, BUT WITH VARIOUS THROAT DEPTHS

	25—U. D.	26—U. D.	27—U. D.	28—U. D.	29—U. D.
Capacity	1 1/2 x 3/4	1 1/2 x 3/4	1 1/2 x 1	1 1/2 x 1 1/4	1 1/2 x 1 1/2

SAME AS FOREGOING, BUT WITH VARIOUS THROAT DEPTHS

	25—U. D.	26—U. D.	27—U. D.	28—U. D.	29—U. D.
Capacity	1 x 3/4	1 1/2 x 1	1 1/2 x 1 1/4	1 1/2 x 1 1/2	1 1/2 x 1 1/2
Plates	3/4	3/4	3/4	3/4	3/4
Plates, standard knives	3 1/2 x 1	4 x 1 1/4	4 1/4 x 1 1/4	5 x 1 1/4	6 x 2 1/2
Rounds	1 1/4	2 1/4	2 1/4	2 1/4	3 1/4
Squares	6 x 1 1/4	6 x 3/4	6 x 3/4	7 x 3/4	8 x 3/4
Angles—square	7 1/2	10	15	25	35
Size motor, h. p.	9,500	14,000			
24" Throat—Weight	\$4,250	\$5,800			
Price	10,500	15,000	21,000		
30" Throat—Weight	\$4,650	\$6,300	\$8,000		
Price	11,500	16,500	22,000	35,000	42,000
36" Throat—Weight	\$5,100	\$6,750	\$8,500	\$9,500	\$12,800
Price	13,600	19,500	25,500	43,000	55,000
48" Throat—Weight	\$6,100	\$8,100	\$10,500	\$12,100	\$15,900
Price	16,500	25,000	30,000	55,000	70,000
60" Throat—Weight	\$7,500	\$10,575	\$11,800	\$15,150	\$19,500
Price	18,500	28,500	35,000	61,000	80,000
72" Throat—Weight	\$8,300	\$12,100	\$12,800	\$17,050	\$22,575
Price	85	110	130	180	250
Ram pressure (tons)	2 1/2—1 1/2	3—1	3 1/4—1 1/4	3 1/4—1 1/4	4 1/4—1 1/4
Thickness of frames					

UNIVERSAL SHEARS AND BAR CUTTERS—TYPE: U. S.

	Single Plunger Machine				Double Plunger Machine		
	0	1/2	1 1/2	2 1/2	2 1/2	3 1/2	4 1/2
Plates	3/4	3/4	3/4	3/4	3/4	3/4	1 1/4
Plates, trim	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
Plates, standard knives	4 x 1/2	6 x 3/4	6 x 3/4	8 x 3/4	6 x 3/4	7 x 1	7 1/2 x 1 1/4
Length knives (inches)	8	10	12	14	12	13 1/2	16 1/2
Rounds	1 1/4	1 1/2	1 1/2	2 1/4	2 1/4	2 1/4	3
Squares	1 1/4	1 1/2	1 1/2	2 1/4	2 1/4	2 1/4	3
Angles, square	3 x 3/4	4 x 3/4	4 x 3/4	6 x 1 1/2	6 x 1 1/2	6 x 3/4	6 x 3/4
Size motor, h. p.	2	3	5	10	10	15	20
Weight	1,650	2,750	4,300	6,000	6,300	9,000	15,000
Price—pulley dr.:							
Note No. 1	\$875	\$1,250	\$1,875	\$2,250	\$2,650	\$3,600	\$6,200
Including built-in notcher	1,115	1,550	2,225	2,650			
Including built-in coper	1,115	1,550	2,225	2,650			
Price Arr'd for Motor Drive	950	1,350	2,000	2,385	2,785	3,750	6,380
Including built-in notcher	1,190	1,650	2,350	2,785			
Including built-in coper	1,190	1,650	2,350	2,785			
Ram pressure—tons	27	48	62	83	83	107	185

SINGLE END PUNCHES—TYPE: P.

Numbers	44	45	46	47	48	49
12" Throat—Weight	1,500	2,000	3,600	5,100	8,400	
Price	\$570	\$725	\$1,275	\$1,725	\$2,475	
16" Throat—Weight	1,600	2,300	3,800	5,400	8,800	10,500
Price	\$600	\$825	\$1,350	\$1,800	\$2,600	\$3,200
20" Throat—Weight	1,725	2,700	4,000	5,700	9,200	11,500
Price	\$650	\$975	\$1,450	\$1,875	\$2,725	\$3,350
24" Throat—Weight	1,850	3,200	4,600	6,100	9,700	12,500
Price	\$710	\$1,160	\$1,625	\$2,025	\$2,850	\$3,700
30" Throat—Weight	2,100	3,600	5,100	6,700	10,700	13,600
Price	\$820	\$1,300	\$1,800	\$2,500	\$3,150	\$4,150
36" Throat—Weight	2,400	4,100	5,900	7,400	12,000	15,200
Price	\$900	\$1,500	\$2,100	\$2,800	\$3,550	\$4,600
48 inch—Weight	3,400	5,300	7,600	9,500	15,000	18,600
Price	\$1,300	\$1,920	\$2,650	\$3,200	\$4,325	\$5,600
60 inch—Weight	5,100	7,100	8,900	12,300	18,400	22,500
Price	\$1,950	\$2,600	\$3,150	\$4,100	\$5,425	\$6,700
72 inch—Weight	6,200	8,300	10,500	14,200	20,800	25,000
Price	\$2,375	\$3,000	\$3,750	\$4,750	\$6,150	\$7,450
Hp. motor	1 1/2	2	3	5	8	7.5
Ram pressure—tons	18	35	60	80	130	160

BUFFALO FORGE COMPANY, BUFFALO, N. Y.—Continued

SINGLE END PUNCHES—TYPE: P.

Throat numbers	50	51	52	53	54	55
16 inch—Weight	13,500					
Price	\$3,800					
20 inch—Weight	14,300	18,000	22,500			
Price	\$4,050	\$4,650	\$5,400			
24 inch—Weight	15,000	19,000	23,800	28,500	32,500	39,000
Price	\$4,250	\$4,900	\$5,700	\$7,150	\$7,600	\$9,100
30 inch—Weight	16,000	20,500	26,000	31,500	36,000	42,500
Price	\$4,550	\$5,300	\$6,200	\$7,850	\$8,650	\$10,250
36 inch—Weight	18,000	23,500	29,000	34,000	40,000	48,000
Price	\$5,000	\$6,100	\$7,000	\$8,500	\$9,600	\$11,800
48 inch—Weight	23,000	30,000	39,000	44,000	49,000	60,000
Price	\$6,600	\$7,800	\$9,300	\$11,000	\$12,100	\$14,350
60 inch—Weight	29,000	38,000	50,000	55,000	61,000	74,000
Price	\$8,250	\$9,850	\$12,300	\$14,350	\$15,150	\$17,700
72 inch—Weight	34,000	44,000	58,000	63,000	70,000	84,000
Price	\$9,700	\$11,450	\$14,350	\$16,600	\$17,200	\$20,000
H. p. motor	10	10	15	15	20	20
Ram pressure—tons	190	250	305	370	420	500

HORIZONTAL PUNCHES—TYPE: H. P.

Numbers	46	47	48	50
Capacity	1 x 5/8	1 1/4 x 3/4	1 3/4 x 1	2 x 1
Capacity	3/4 x 3/4	1 x 3/4	1 1/4 x 1 1/4	1 3/4 x 1 1/4
Throat	12	16	16	16
Punches:				
Beams in flanges	6"-12"	7"-18"	7"-24"	7"-24"
Beams in web	5"-15"	7"-18"	7"-18"	7"-18"
Channels in flange	6"-12"	7"-18"	7"-18"	7"-18"
Channels in web	5"-15"	7"-18"	7"-18"	7"-18"
Length	6'-3"	7'-4"	8'-0"	10'-0"
Width	2'-3"	2'-10"	3'-4"	4'-0"
Height	3'-8"	4'-4"	6'-3"	6'-3"
Weight	3,350	5,800	9,500	14,000
Price	\$1,600	\$2,530	\$3,750	\$4,825
H. p. motor	3	5	10	10
R. p. m.	280	275	235	250
Ram pressure, tons	59	80	130	190

ACCESSORIES

Machine	23-U	24-U	25-U	25-UD	26-UD	27-UD	28-UD	29-UD
Numbers	44	45	46	47	48	49	50	51
Motor drive arrangements	\$65	\$75	\$100	\$125	\$135	\$150	\$175	\$225
Gear guard #44, to #55 only	35		55	60	75		90	120
Gear and fly-wheel guard, U, UD, UIW	55	60	80	110	150	180	225	290
Built-in notcher-punch end	175	190	220	250	300	350	400	525
Built-in notcher-shear end		240	300	350	400			
Built-in coper-shear end		240	300	350	400			
Triple punching attachments	165	175	200	290	375	410	475	575
Stake punch attachments	55	65	70	100	125	140	165	200
Slitting shear knife holder	90		100	120	140		160	200
Cut-off knife holder	85		90	105	120		145	180

Machine numbers	51	52	53	54	55
Motor drive arrangement		\$255	\$280	\$300	\$325
Gear guard No. 44 to 55 only		175	200	235	260
Gear and flywheel guard, U, UD, UIW		625	675	750	825
Triple punching attachments		300	375	450	525
Slitting shear knife holder		275	350	425	500
Cut-off knife holder					575

Above refers to punches, dies, shear blades, bar cutter knives, special die blocks, triple attachments, stake punch attachments, built-in 90° notchers, built-in square copers, interchangeable 90° notchers and square copers, 90° notching tools, square coping tools, motor drive, arrangements, gear guards, flywheel guards, sub-bases, trucks.

BUFFALO FORGE COMPANY, BUFFALO, N. Y.—Continued

RAPID ACTING PUNCHES—TYPE, R. A. P.

Throat	43	44	45	46	47	48
Capacity	3/4 x 1 1/4	1 1/4 x 3/4	3/4 x 1 1/4	3/4 x 3/4	1 x 3/4	1 x 1
Length	3' 2"	3' 8"	4' 5"	5' 0"	5' 11"	
Width	2' 3"	3' 8"	5' 0"	5' 8"	6' 0"	
Height	5' 2"	6' 0"	6' 3"	6' 8"	7' 9"	
Weight—pounds	1,500	\$835	\$1,025	\$1,500	\$1,965	9,000
Price	\$560	2,725	3,400	4,500	6,400	\$3,320
20 inch—Weight	1,600	\$900	\$1,200	\$1,610	\$2,240	11,000
Price	\$600	3,000	3,750	5,100	7,000	\$3,800
24 inch—Weight	1,750	\$960	\$1,350	\$1,850	\$2,450	12,600
Price	\$650	3,700	4,800	6,600	8,500	\$4,200
36 inch—Weight	1,950	\$1,200	\$1,600	\$2,400	\$3,100	14,500
Price	\$750	5,100	6,000	8,300	10,500	\$4,850
48 inch—Weight	2,200	\$1,700	\$2,200	\$3,000	\$3,750	16,500
Price	\$830	6,500	7,500	10,000	12,500	\$5,500
60 inch—Weight	2,500	\$2,150	\$2,700	\$3,800	\$4,500	18,500
Price	\$970	8,000	9,000	12,000	15,000	\$6,200
72 inch—Weight	2,900	\$2,600	\$3,300	\$4,500	\$5,200	20,000
Price	\$1,100	9	18	35	60	130
Ram pressure, tons	9	18	35	60	80	130
Frames	1 1/2	2	3	5	7 1/2	10
H. p. motor	900	900	900	1,200	1,200	1,200
R. p. m. motor	1 1/2	2	3	5	7 1/2	10
Capacity rivets, cold	1 1/2	2	3	5	7 1/2	10

SINGLE END SHEARS—TYPES

Throat	44	45	46	47	48	49
Weight—pounds	1,600	2,125	3,750	5,350	8,800	10,300
Price	\$600	\$770	\$1,325	\$1,875	\$2,875	\$3,100
12 inch—Weight	1,700	2,425	3,950	5,700	9,200	11,000
Price	\$640	\$880	\$1,400	\$1,925	\$2,975	\$3,300
16 inch—Weight	1,825	2,825	4,150	6,150	9,600	11,800
Price	\$690	\$1,075	\$1,475	\$2,100	\$3,100	\$3,600
20 inch—Weight	1,950	3,325	4,750	6,500	10,100	13,000
Price	\$750	\$1,225	\$1,675	\$2,200	\$3,275	\$3,900
24 inch—Weight	2,100	3,525	5,000	7,000	10,500	13,500
Price	\$800	\$1,275	\$1,725	\$2,250	\$3,325	\$3,950
H. p. motors	18	35	60	80	130	160
Ram pressure—tons	18	35	60	80	130	160

SINGLE END PUNCHES WITH SHEARS—TYPE, P. W. S.

Type	44	45	46	47	48
P. capacity	1/2 x 3/4	3/4 x 1/2	1 x 5/8	1 1/4 x 3/4	1 3/4 x 1
P. capacity	3/4 x 3/4	3/4 x 3/4	3/4 x 3/4	1 x 3/4	1 1/4 x 1 1/4
Plates (sl. sh.)	3 x 1/2	3 x 3/4	3 1/2 x 3/4	5 x 3/4	5 1/2 x 1 1/4
Flats (sl. sh.)					
Cut-off sh.					
Flats	3 1/2 x 3/4	4 x 3/4	6 1/2 x 1/4	8 x 3/4	10 x 3/4
Rounds	1 1/2	1 1/2	1 1/2	1 1/2	2
Squares	3/4	1	1 1/2	1 1/2	1 1/2
Angles	1 1/2 x 3/4	2 1/2 x 3/4	3 x 3/4	4 x 3/4	4 x 3/4
Tees	1 1/2 x 3/4	2 x 3/4	2 1/2 x 3/4	3 x 3/4	4 x 3/4
Throat					
12 inch—Weight	1,650	2,200	3,850	5,500	9,100
Price	\$680	\$860	\$1,430	\$1,925	\$3,025
16 inch—Weight	1,750	2,500	4,050	5,850	9,650
Price	\$715	\$970	\$1,500	\$2,050	\$3,200
20 inch—Weight	1,875	2,900	4,240	6,200	10,100
Price	\$760	\$1,100	\$1,600	\$2,125	\$3,300
24 inch—Weight	2,000	3,400	4,850	6,650	10,700
Price	\$820	\$1,300	\$1,775	\$2,250	\$3,450
H. p. motor	2	3	5	7 1/2	10
Ram pressure—tons	18	35	59	80	130

BUFFALO FORGE COMPANY, BUFFALO, N. Y.—Continued DOUBLE END PUNCHES AND SHEARS—TYPE, P. & S.

Throat		Numbers				
		45	46	47	48	49
12"	Weight.....pounds.	4,300	5,500	8,400	12,500	18,000
	Price.....	\$1,575	\$1,925	\$2,850	\$4,140	\$5,775
16"	Weight.....pounds.	4,700	6,000	9,000	13,600	18,000
	Price.....	\$1,700	\$2,125	\$3,050	\$4,400	\$5,775
20"	Weight.....pounds.	5,000	6,500	9,700	14,700	19,000
	Price.....	\$1,825	\$2,300	\$3,275	\$4,775	\$5,725
24"	Weight.....pounds.	5,350	7,000	10,600	15,800	21,000
	Price.....	\$1,950	\$2,475	\$3,575	\$5,125	\$6,350
30"	Weight.....pounds.	6,000	7,900	12,000	17,700	23,500
	Price.....	\$2,175	\$2,775	\$4,075	\$5,775	\$7,050
36"	Weight.....pounds.	6,800	9,000	13,500	19,800	26,500
	Price.....	\$2,475	\$3,200	\$4,550	\$6,500	\$7,950
48"	Weight.....pounds.	8,500	11,500	17,000	24,500	30,000
	Price.....	\$3,100	\$4,100	\$5,800	\$8,000	\$9,900
60"	Weight.....pounds.	10,800	14,200	22,000	30,500	38,000
	Price.....	\$3,750	\$5,000	\$7,600	\$10,250	\$11,900
72"	Weight.....pounds.	11,300	15,600	25,200	36,000	45,000
	Price.....	\$4,100	\$5,500	\$8,500	\$12,100	\$13,850
	H. p. motor.....	3	5	7½	130	15
	Ram pressure.....tons.	35	60	80	130	160

		50	51	52	53	54	55
16"	Weight.....pounds.	18,000					
	Price.....	\$5,500					
20"	Weight.....pounds.	19,200	26,000	38,000			
	Price.....	\$6,000	\$8,575	\$9,150			
24"	Weight.....pounds.	20,600	29,000	40,500	47,000	63,000	75,000
	Price.....	\$6,500	\$7,650	\$9,800	\$11,300	\$12,300	\$15,900
30"	Weight.....pounds.	22,800	32,500	44,500	52,000	68,000	83,000
	Price.....	\$7,300	\$8,575	\$10,775	\$12,500	\$13,850	\$17,500
36"	Weight.....pounds.	25,700	36,500	50,000	60,000	74,000	90,000
	Price.....	\$8,200	\$9,700	\$12,300	\$13,550	\$15,400	\$19,500
48"	Weight.....pounds.	33,000	45,500	60,000	75,000	88,000	105,000
	Price.....	\$10,800	\$12,800	\$15,400	\$16,400	\$18,500	\$22,050
60"	Weight.....pounds.	42,000	62,000	75,000	96,000	105,000	125,000
	Price.....	\$14,000	\$16,850	\$18,500	\$19,750	\$21,600	\$26,700
72"	Weight.....pounds.	48,000	70,000	85,000	95,000	115,000	140,000
	Price.....	\$16,000	\$18,750	\$20,600	\$21,600	\$24,100	\$29,900
	H. p. motor.....	15	20	20	25	30	40
	Ram pressure.....tons.	190	250	305	370	420	500

SPRUCE CUTTERS—TYPE, S. C.

Capacity	Number				
	45	46	47	48	48
Single end.....	Single end.	Single end.	Single end.	Single end.	Double end.
Steel castings.....	1 sq. in.	1.75 sq. in.	2.5 sq. in.	4 sq. in.	4 sq. in.
Malleable iron.....	1 sq. in.	1.75 sq. in.	2.5 sq. in.	4 sq. in.	4 sq. in.
Depth throat.....	12"	16"	24"	20"	20"
Size motor, h. p.....	3	5	7½	12	16
Weight.....pounds.	2,750	4,100	6,500	12,000	16,000
Price.....	\$1,000	\$1,650	\$2,225	\$3,200	\$5,000
Motor drive arrangement.....	\$100	\$125	\$135	\$175	\$175
Gear guard.....	\$55	\$60	\$75	\$90	\$90
Flywheel guard.....	\$50	\$55	\$65	\$75	\$75

SINGLE END ANGLE SHEARS—TYPE, S. A. S.

	Capacity				
	3"	4"	6"	8"	8" HVY.
Angles, square.....	3 x ¾	4 x ¾	6 x ¾	8 x 1¼	8 x 1¼
Angles, 45°.....	2½ x ¾	4 x ¾	6 x ¾	8 x 1¼	8 x 1¼
Size motor, h. p.....	5	7½	15	20	25
Weight, Lbd.....	1,700	3,350	9,000	25,000	30,000
Price.....	\$1,025	\$1,700	\$4,075	\$6,950	\$8,900
Motor drive arrangement.....	\$80	\$100	\$130	\$170	\$225
Gear guards only.....	90	125	180	230	300
Gear-flywheel and V-belt guards.....	175	250	350	450	600
Ram pressure.....tons.	45	70	200	390	460

Prices cover pulley driven machines and include one set of knives.

BUFFALO FORGE COMPANY, BUFFALO, N. Y.—Continued DOUBLE-END ANGLE SHEARS—TYPE D. A. S.

	Capacity				
	3"	4"	6"	8"	8" HVY.
Angles, square.....	3 x ¾	4 x ¾	6 x ¾	8 x 1¼	8 x 1¼
Angles, 45°.....	2½ x ¾	4 x ¾	6 x ¾	8 x 1¼	8 x 1¼
Size motor, h. p.....	5	7½	15	20	25
Weight.....pounds.	2,500	5,000	12,000	33,000	40,000
Price.....	\$1,275	\$2,275	\$4,850	\$8,250	\$10,250
Turntable.....	\$900	\$1,400	\$2,000	\$2,800	\$3,500
Motor drive arrangement.....	\$80	\$100	\$130	\$170	\$225
Gear guards only.....	\$90	\$125	\$180	\$230	\$300
Gear-flywheel and V-belt guards.....	\$175	\$250	\$350	\$450	\$600
Ram pressure.....tons.	45	70	200	390	460

DOUBLE END ANGLE AND BAR SHEARS—TYPE D. A. B. S.

	Capacity				
	3"	4"	6"	8"	8" HVY.
Angles, square.....	3 x ¾	4 x ¾	6 x ¾	8 x 1¼	8 x 1¼
Angles, 45°.....	2½ x ¾	4 x ¾	6 x ¾	8 x 1¼	8 x 1¼
Rounds.....	1½	1¾	2¼	3¼	4¼
Squares.....	2 x ¾	2½ x 1	4 x 1¼	6 x 2¼	6 x 3
Flats.....	3,500	7,500	20,000	42,000	50,000
Weight.....pounds.	\$1,550	\$2,725	\$6,050	\$9,800	\$12,100
Price.....	\$1,000	\$1,600	\$2,300	\$3,200	\$4,000
Turntable.....	\$80	\$100	\$130	\$170	\$225
Motor drive arrangement.....	\$90	\$125	\$180	\$230	\$300
Gear guards only.....	\$175	\$250	\$350	\$450	\$600
Gear-flywheel, and V-belt guards.....	45	70	200	390	460
Ram pressure.....tons.	45	70	200	390	460

SLITTING SHEARS—TYPE S. S.

	Capacity No.							
	22	23	24	25	26	27	28	29
Plates—thru center.....	¼	¾	¾	¾	¾	1	1¼	1½
Plates—trim.....	¾	¾	¾	¾	¾	1	1¼	1½
Rounds.....	¾	¾	¾	¾	¾	1	1¼	1½
Squares.....	2 x ¾	2½ x ¾	3 x ¾	3½ x 1	4 x 1¼	4½ x 1¾	5 x 1¾	6 x 1¾
Flats, std. knives.....	2 x ¾	2½ x ¾	3 x ¾	3½ x 1	4 x 1¼	4½ x 1¾	5 x 1¾	6 x 1¾
Angles.....	1	2	3	5	7½	15	25	35
Size motor, h. p.....	550	900	2,200	2,300	4,400	8,400	14,000	22,000
Weight.....pounds.	\$260	\$425	\$700	\$925	\$1,600	\$2,725	\$3,925	\$6,200
Price.....	\$60	\$80	\$100	\$110	\$135	\$150	\$175	\$190
Motor drive arrangement.....	\$35	\$45	\$55	\$70	\$90	\$125	\$150	\$180
Gear guards only.....	\$70	\$90	\$110	\$140	\$175	\$250	\$300	\$350
Gear-flywheel, and V-belt guard.....	5	12	24	42	70	143	250	400
Ram pressure.....tons.	5	12	24	42	70	143	250	400

BAR CUTTERS—TYPE B. C.

	Number						
	5	6	7	8	9	10	11
Rounds.....	1¼	1½	2¼	2¾	3¾	3¾	4½
Squares.....	1¼	1½	2¼	2¾	3¾	3¾	4½
Angles.....	2¼ x ¾	3½ x ¾	4 x ¾	5 x ¾	6 x ¾	8 x ¾	8 x 1
Tees.....	2¼ x ¾	3½ x ¾	4 x ¾	5 x ¾	6 x ¾	8 x ¾	8 x 1
Size motor, h. p.....	2	3	5	7,500	10,000	16,000	23,000
Weight.....pounds.	1,060	2,575	4,250	\$2,800	\$3,700	\$5,600	\$8,100
Price.....	\$700	\$1,300	\$2,100	\$230	\$260	\$280	\$300
Motor drive arrangement.....	\$90	\$110	\$150	\$225	\$285	\$375	\$575
Gear, flywheel, and V-belt guards.....	\$125	\$175	110	170	240	325	430
Ram press.....tons.	30	55	110	170	240	325	430

BUFFALO FORGE COMPANY, BUFFALO, N. Y.—Continued
SPECIAL BAR CUTTERS—TYPE, S. P. B. C.

	Number						
	5	6	7	8	9	10	11
Rounds.....	1 1/4	1 1/2	2 1/4	2 3/4	3 3/4	3 3/4	4 1/2
Squares.....	1 1/4	1 1/2	2 1/4	2 3/4	3 3/4	3 3/4	4 1/2
Angles.....	2 1/4 x 1 1/4	3 1/4 x 1 1/4	4 x 1 1/4	5 x 1 1/4	6 x 1 1/4	8 x 1 1/4	10 x 1 1/4
Flats.....	2 1/4 x 1 1/4	4 x 1 1/4	5 x 1 1/4	6 x 1 1/4	7 x 1	8 x 1 1/4	10 x 1 1/4
Size motor, h. p.....	1,300	2,700	4,500	8,200	11,500	16,500	25,000
Weight..... pounds.....	\$825	\$1,475	\$2,425	\$3,350	\$4,400	\$6,150	\$9,600
Price.....	\$90	\$110	\$150	\$220	\$260	\$380	\$575
Motor drive arrange. ¹	\$125	\$175	\$225	\$285	\$375	\$475	\$575
Gear, flywheel and V-belt gds.....	30	55	110	170	240	325	430
Ram pressure..... tons.....							

¹ Not including motor nor control, but V-belts.

DIAGONAL BAR CUTTERS—TYPE, D. B. C.

	Number						
	5	6	7	8	9	10	11
Round bars.....	1 1/4	1 1/2	2 1/4	2 3/4	3 3/4	3 3/4	4 1/2
Square bars.....	1 1/4	1 1/2	2 1/4	2 3/4	3 3/4	3 3/4	4 1/2
Angles, sq.....	3 x 3 x 3/4	4 x 4 x 1/2	6 x 6 x 1/2	6 x 6 x 3/4	6 x 6 x 3/4	8 x 8 x 3/4	10 x 8 x 1
Angles, 45°.....	2 x 2 x 3/4	3 x 3 x 1/2	4 x 4 x 1/2	4 x 4 x 3/4	6 x 6 x 3/4	6 x 6 x 3/4	8 x 8 x 1
Flat bars.....	3 x 1 1/2	4 x 1 1/2	5 x 1 1/2	6 x 1 1/2	7 x 1	10 x 1 1/4	12 x 1 1/2
H. P., motor.....	1,800	3,500	6,000	10,000	14,000	20,000	30,000
Weight..... pounds.....	\$1,175	\$1,850	\$3,300	\$4,125	\$5,725	\$7,375	\$11,550
Price.....	\$90	\$110	\$150	\$220	\$260	\$380	\$575
Motor drive arrange. ¹	\$125	\$175	\$225	\$285	\$375	\$475	\$575
Gear, flywheel and V-belt gds.....	30	55	110	170	240	325	430
Ram pressure..... tons.....							

¹ Standard knives.

² Prices include the belts but not the motor nor controls.

BILLET SHEARS—TYPE, B. S.

	Number						
	7	8	9	10	11	12 ¹	
Round billets.....	2 1/4	2 1/4	3 3/4	3 3/4	4 1/2	4 1/2	1 5
Square billets.....	2 1/4	2 1/4	3 3/4	3 3/4	4 1/2	4 1/2	1 5
Flat bars.....	8 x 3/4	9 x 3/4	10 x 1	12 x 1 1/4	14 x 1 1/2	16 x 1 3/4	16 x 2
Flat bars.....	6 x 1	6 x 1 1/4	6 x 1 1/2	8 x 1 3/4	10 x 1 1/4	10 x 1 1/4	14 x 2
H. P., motor.....	4,300	7,500	10,000	15,000	20,000	30,000	30,000
Weight..... pounds.....	\$2,100	\$2,900	\$3,775	\$5,975	\$8,550	\$10,600	\$320
Price.....	\$150	\$230	\$255	\$280	\$300	\$320	\$320
Motor dr. arrange. ¹	\$300	\$325	\$375	\$450	\$600	\$800	\$540
Extra for herringbone grs.....	110	170	240	325	430	540	\$650
Ram pressure..... tons.....							300
Automatic stripper.....	\$110	\$135	\$180	\$225	\$275	\$325	625
Gear guards only.....	\$225	285	375	475	575		
Gear, flywheel and V-belt gds.....							
	13	14	15	16	17		
Round billets.....	5 1/4	6 1/4	7 3/4	9	10		
Square billets.....	5 1/4	6 1/4	7 3/4	9	10		
Flat bars.....	18 x 2 1/4	20 x 2 1/4	22 x 3	26 x 3 1/4	28 x 4		
Flat bars.....	15 x 2 1/4	16 x 3	16 x 3 3/4	20 x 4	20 x 4 1/2		
H. P., motor.....	45,000	60,000	80,000	125,000	165,000		
Weight..... pounds.....	\$15,000	\$19,750	\$27,500	\$38,500	\$50,000		
Price.....	\$370	\$460	\$520	\$600	\$675		
Motor drive arrange. ¹	\$950	\$1,200	\$1,500	\$1,800	\$2,200		
Extra for herringbone gears.....	675	1,000	1,300	1,750	2,200		
Ram Pressure..... tons.....	\$700	\$875	\$950	\$1,075	\$1,225		
Automatic stripper.....	\$350	\$400	\$475	\$575	\$675		
Gear guards only.....	\$725	\$850	\$1,000	\$1,400	\$1,750		
Gear, flywheel and V-belt guards.....							

BUFFALO FORGE COMPANY, BUFFALO, N. Y.—Continued
WRAPPING ROLLS—TYPE, W. R.

	Number				
	1/2	1	2	3	4
Standard capacities.....	6 x 1/4 x 6	8 x 1/4 x 8	10 x 1/4 x 12	12 x 1/4 x 16	16 x 1/4 x 20
Horsepower.....	1 1/2	3	5	7 1/2	10
Weight..... pounds.....	1,900	3,100	6,000	10,000	15,000
Price ¹ incl. motor, 3 ph, 60 cycle.....	\$1,000	\$2,200	\$3,450	\$5,350	\$7,250

ANGLE BENDING ROLLS—TYPE: V. B. R. & H. B. R.

	Number				
	00	0	1/2	1	2
Angles-leg out.....	3/4 x 3/4 x 3/4	1 1/4 x 1 1/4 x 3/4	2 x 2 x 1/4	3 x 3 x 3/4	4 x 4 x 3/4
Minimum diameter.....	20	24	20	24	40
Angles-leg in.....	3/4 x 3/4 x 3/4	1 1/4 x 1 1/4 x 3/4	1 1/4 x 1 1/4 x 3/4	2 1/2 x 2 1/2 x 3/4	3 1/2 x 3 1/2 x 3/4
Size motor, h. p.....	1,800	1,200	1,200	1,200	1,200
Speed motor.....	575	875	2,600	4,500	13,000
Weight..... pounds.....	\$600	\$875	\$1,250	\$2,250	\$4,750
Price, less motor ¹	\$35	\$50	\$75	\$100	\$120
Wiring motor and controls.....					

	Number				
	00	0	1	2	1/2
With std. rolls, leg out.....			3 1/4 x 3 1/4 x 3/4	5 x 5 x 3/4	
With std. rolls, leg in.....			3 x 3 x 3/4	4 x 4 x 3/4	
Minimum diameter.....			36	60	

HORIZONTAL

	Number				
	1/2	1	2	3	4
Angles-leg out.....	2 x 2 x 1/4	3 x 3 x 3/4	4 x 4 x 3/4	6 x 6 x 3/4	8 x 8 x 1
Minimum diameter.....	20	24	40	60	84
Angles-leg in.....	1 1/2 x 1 1/2 x 1/4	2 1/2 x 2 1/2 x 3/4	3 1/2 x 3 1/2 x 3/4	5 x 5 x 3/4	8 x 8 x 1
Size motor, h. p.....	1,200	1,200	1,200	1,200	1,200
Speed motor.....	3,250	5,600	14,000	33,000	70,000
Weight..... pounds.....	\$1,550	\$2,750	\$5,750	\$10,775	\$23,100
Price, less motor ¹	\$75	\$100	\$120	\$150	\$350
Wiring motor and controls.....					

	Number				
	1/2	1	2	3	4
With drive below floor line.....			\$6,250	\$11,625	\$24,600
For drive above floor.....					

¹ In addition to the motor, a reversing switch equipped with two thermal overload relays, and a 3-way lever switch, are included in the price. Gear motors are G. E. controls A. B.

BUFFALO FORGE COMPANY, BUFFALO, N. Y.—Continued
BUFFALO "ARMOR-PLATE" SIMPLEX BENDING ROLLS—TYPE: S. B. R.

	Capacity and Specification				
	No. ½	No. 1	No. 2	No. 3	No. 4
Flats on flat.....	1½ x 24D	2½ x 13½ x 20D	3 x 2½ x 20D	5 x 3½ x 30D	6 x 4½ x 36D
Sq. bars (soft steel).....	2 x 20D	2 x 20D	2½ x 30D	4 x 40D	5 x 60D
Round bars.....	2 x 24D	2½ x 24D	3 x 30D	4½ x 36D	6 x 48D
Standard pipe.....	2½ x 24D	2½ x 20D	3½ x 24D	5 x 36D	8 x 72D
Size motor, h. p.....	5	10	20	30	40
Speed of motor.....	1,200	1,200	1,200	900	900
Diam. upper shaft.....	3½	4½	6	7½	12
Weight..... pounds.....	1,825	4,000	8,000	10,325	37,500
Price includes 1 set of standard rolls, standard speed reducer, arr. motor drive, less motor.	\$950	\$2,100	\$3,950	\$7,200	\$15,400
Incl. rolls for corrugated bars, truck, and V-belts					

STRAIGHTENING MACHINES—TYPE, S. M.

	Number of machine		
	47	48	50
Distance between blocks.....	6" to 14"	8" to 16"	8" to 18"
Straightens beams up to.....	6"—17.25 lb.	9"—30 lb.	10"—35 lb.
Ram pressure..... tons.....	80	100	190
Size of Motor, hp.....	5	7.5	10
Weight..... pounds.....	6,850	11,000	16,500
Price.....	\$3,000	\$4,350	\$6,050
Motor drive arrangement.....	\$130	\$150	\$190
Gear guard.....	\$50	\$65	\$125
Flywheel guard.....	\$55	\$75	\$140

NO. 2½ STRUCTURAL IRON WORKER—TYPE, S. I. W.

PRICES

Pulley drive—no countershaft included:	
Machine equipped as per note No. 1.....	\$3,350
Machine incl. built-in notcher in punch-head.....	3,650
Machine incl. built-in notcher on shear end.....	3,750
Machine incl. built-in coper on shear end.....	3,750
Machine incl. built-in notcher and coper.....	4,050
Arranged for motor drive—no motor:	
Machine equipped as per note No. 1.....	3,485
Machine incl. built-in notcher in punch-head.....	3,785
Machine incl. built-in notcher on shear end.....	3,885
Machine incl. built-in coper on shear end.....	3,885
Machine incl. built-in notcher and coper.....	4,185
Gooseneck dieblock (refer note No. 2).....	200
Turntable.....	650
Attachment for cutting flats in bar-cutter section.....	135
3-foot bar-cutter gauge.....	65
Light socket, switch, 50-foot cable and receptacle.....	50

BULLARD CO., BRIDGEPORT, CONN.

SPIRAL DRIVE VERTICAL TURRET LATHES

Size	Weight (pounds)	Prices		Extra height
		Standard type ¹	High-speed type ²	
24".....	10,000	\$7,575	\$8,545	\$550
36".....	17,750	10,040	11,130	550
42".....	20,200	11,960	12,460	550
54".....	24,400	12,850	13,990	550

¹ Includes V-belt motor drive.

² With 2 heads.

BULLARD CO., BRIDGEPORT, CONN.—Continued
CUT MASTER VERTICAL TURRET LATHES

Size	Weight (pounds)	Price
30".....	26,000	\$10,590
36".....	29,000	12,900
42".....	39,000	17,740
54".....	46,600	19,555
64".....	54,000	21,535

¹ With two heads.

² With three heads.

TYPE "D" MULT-AU-MATIC LATHES

Size	Six spindle with five heads		Eight spindle with seven heads		Extra height
	Weight (pounds)	Price	Weight (pounds)	Price	
8".....	26,600	\$20,080	34,700	\$26,970	660
12".....	27,600	22,435	35,500	29,450	660
16".....	34,000	27,210	42,000	32,290	660

THE BURKE MACHINE TOOL COMPANY, CONNEAUT, OHIO

Milling machines

	Price
#0 Bench cone type milling machine, complete with counter shaft.....	\$170
#1 Bench cone type milling machine, complete with counter shaft.....	180
#2 Bench cone type milling machine, complete with counter shaft.....	265
#3 Bench cone type milling machine, complete with counter shaft.....	195
#4 Bench cone type milling machine, complete with counter shaft.....	275

Motor driven milling machines

(When ordering, advise voltage, cycle and phase of motor required)	
#1 Motor driven milling machine (including belting, wrenches, reversible drum type switch), spindle, Timken roller bearing.....	300
#2 Motor driven milling machine (including belting, wrenches, reversible drum type switch), spindle, Timken roller bearing.....	385
#3 Motor driven milling machine (including belting, wrenches, reversible drum type switch), spindle, Timken roller bearing.....	320
#4 Motor driven milling machine (including belting, wrenches, reversible drum type switch), spindle, Timken roller bearing.....	410
Universal table for No. 4 miller, extra.....	40

Attachments

Arbors, for Nos. 1, 2, 3 and 4 millers, No. 9 B & S taper (when ordering state diameter) ¾" and 1".....	7
Column for No. 0 miller.....	15
23-inch column for Nos. 1, 2, 3 and 4 millers.....	18
28-inch column for Nos. 1, 2, 3 and 4 millers.....	22
28-inch cabinet column for Nos. 1, 2, 3 and 4 millers.....	37
The following attachments include necessary wrenches:	
Index centers, tilting head, including one plate.....	52
Index centers, stationary head, including one plate.....	35
Extra index plates, each.....	2.50
Draw-in collet attachment for miller with one round collet.....	18
Draw-in collet attachment for index centers with one round collet.....	10
Extra collets, each.....	4
Vertical milling attachment, ball bearing spindle, including one collet.....	75
Quick opening vise.....	14
Miller and drill press vise, plain.....	14
Graduated swivel base vise.....	18

JOHN T. BURR & SON, BROOKLYN, N. Y.

KEYSEAT MILLING MACHINES

PRICES—WEIGHTS

Mach. No.	Length	36 inches	48 inches	60 inches	72 inches	84 inches	96 inches
3	Price	\$760	\$820	\$865			
	Weight, pounds	1,600	2,000	2,000			
5	Price		\$925	\$990	\$1,075		
	Weight, pounds		2,800	3,000	3,200		
6	Price		\$1,050	\$1,125	\$1,200		
	Weight, pounds		3,300	3,500	3,700		
7	Price				\$1,600	\$1,750	\$1,850
	Weight, pounds				4,500	5,000	5,500
8	Price				\$1,925	\$2,050	\$2,175
	Weight, pounds				4,900	5,300	5,800

Routing attachment, extra.—No. 5, \$225; No. 6, \$250; No. 7, \$350; No. 8, \$390.

Arranging for motor drive, extra.—No. 3, \$175; No. 5, \$175; No. 6, \$185; No. 7, \$220; No. 8, \$240.

SPECIFICATIONS

Machine No.	3	5	6	7	8
Standard lengths (inches)	36-48-60	48-60-72	48-60-72	72-84-96	72-84-96
Width of platen (inches)	6 $\frac{3}{4}$	9	11	12	12
Automatic feed (inches)	36-48-60	48-60-72	48-60-72	72-84-96	72-84-96
Takes through housing, width (inches)	9	10 $\frac{1}{2}$	13 $\frac{1}{2}$	14	17
Takes through housing, height (inches)	7 $\frac{3}{8}$	9 $\frac{1}{2}$	9 $\frac{1}{2}$	11	14
Shaft capacity on V-blocks (inches)	4	6	8	10	12
Motor required (horsepower)	3	3	3	5	5
Motor speed, plain machine	1,200	1,200	1,200	1,200	1,200
Motor speed, router machine	750/1,500	750/1,500	750/1,500	750/1,500	750/1,500

BURR KEYSEAT MILLING MACHINES

(CARRIAGE TYPE—FOR STRAIGHT SHAFTING ONLY)

Machine No.	4	4 $\frac{1}{2}$
Shafting capacity (inches)	4 $\frac{1}{2}$	4 $\frac{1}{2}$
Carriage travel (inches)	24	48
Price	\$525	\$625
Weight (pounds)	1,600	2,000

BURR PORTABLE SHAFT KEYSEATERS

HORIZONTAL SPINDLES, HAND OPERATED

Machine number	1	1-A	2	3
Largest shaft capacity (inches)	5	6	8	12
Longest keyway in one setting (inches)	12	12	12	12
Number of hand cranks	1	2	2	2
Will mill all widths (inches)	$\frac{1}{4}$ -1 $\frac{1}{2}$	$\frac{1}{4}$ -1 $\frac{1}{2}$	$\frac{1}{4}$ -2	$\frac{1}{4}$ -2 $\frac{1}{2}$
Net weight (pounds)	85	95	200	325
Price (regular equipment)	\$95	\$105	\$145	\$225
Price (arranged for drill drive)	\$130	\$140	\$185	\$260

HORIZONTAL SPINDLES, MOTOR DRIVEN

Machine number	11	11-A	12	13
Largest shaft capacity (inches)	5	6	8	12
Will mill at each setting (inches)	12	12	12	12
Size of motor (horsepower)	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1
Net weight (pounds)	225	300	425	525
Price (regular equipment)	\$225	\$275	\$375	\$475

JOHN T. BURR & SON, BROOKLYN, N. Y.—Continued

BURR PORTABLE SHAFT KEYSEATERS—Continued

VERTICAL SPINDLES, MOTOR AND ARRANGED FOR DRILL DRIVE

Machine number	20	21	25
Largest shaft capacity (inches)	6	12	10
Longest keyseat at one setting (inches)	7	12	8
Capacity for widths (inches)	$\frac{1}{4}$ -1 $\frac{1}{4}$	$\frac{1}{4}$ -1 $\frac{1}{4}$	$\frac{1}{4}$ -1 $\frac{1}{4}$
Capacity for widths (inches)	185	250	250
Net weight (motor driven) (pounds)	150	200	200
Net weight (arranged air motor) (pounds)			
Price (motor driven A. C.)	\$250	\$375	\$390
Price (motor driven D. C.)	\$260	\$390	\$410
Price (arranged drill drive)			\$390

BURR COLD SAWS

Machine number	1	II	2	3
Capacity rounds (inches)	3 $\frac{1}{2}$	3 $\frac{1}{4}$	5	6
Capacity squares (inches)	3	3	4	5
Saw diameter (inches)	10	10	14	16
Weight belt driven (pounds)	500	600	1,100	1,800
Weight arranged, motor drive (pounds)	575	675	1,450	2,150
Size motor required (horsepower)	1	1 $\frac{1}{2}$	2	3
Price (belt driven)	\$225	\$275	\$475	
Price (arranged motor drive)	\$265	\$325	\$525	\$665

BURR PORTABLE BORE KEYSEATER, HAND OPERATED

Capacity for keyways to 1 $\frac{1}{2}$ " wide.
 Capacity for keyways to 12" long.
 Price, with base but without tools, \$200.
 Weight, with base but without tools, 500 pounds.
 Price, without base, and without tools, \$185.
 Price of any required tool equipment on application.

CALLAHAN CAN MACHINE COMPANY, INC., BROOKLYN, N. Y.

DOUBLE ACTION PRESSES

Description	Price	Extras	
		V-belt drive, no motor	Flat belt drive, no motor
No. 44 Flywheel press	\$1,010	\$110	\$90
No. 44 Geared press	1,240	110	90
No. 45 Flywheel press	1,170	125	100
No. 45 Geared press	1,500	125	100
No. 46 Flywheel press	1,810	125	100
No. 46 Geared press	2,140	125	100
No. 49 Flywheel press	9,500	150	100
		Non-skip stock feed	Non-skip dexter feed
		11,000	13,000

CALLAHAN CAN MACHINE COMPANY, INC., BROOKLYN, N. Y.—Con.

DOUBLE CRANK PRESSES

Description	Price	Extras	
		V-belt drive, no motor	Flat belt drive, no motor
No. 56 Flywheel press.....			
No. 56 Geared press.....	1,610	110	90
No. 57 Flywheel press.....	1,840		
No. 57 Geared press.....	2,280	125	100
No. 58 Flywheel press.....	2,410		
No. 58 Geared press.....	2,925	140	110
No. 58½ Flywheel press.....	3,275		
No. 58½ Geared press.....	3,025	140	110
No. 59 Flywheel press.....	3,275		
No. 59 Geared press.....	3,240	170	120
No. 59½ Flywheel press.....	3,750		
No. 59½ Geared press.....	4,420	170	120
	4,750		

ARCH PRESSES

No. 404 Flywheel press.....			
No. 404 Geared press.....	1,065	110	90
No. 405-O Flywheel press.....	1,365		
No. 405-O Geared press.....	1,480	125	100
No. 406-A Flywheel press.....	1,850		
No. 406-A Geared press.....	1,210	125	100
No. 375 Strip feed press.....	1,500		
	2,650	110	90

O. B. I. PRESSES

No. 2 Flywheel press.....			
No. 3 Flywheel press.....	290	90	65
No. 4 Flywheel press.....	440	95	75
No. 4 Geared press.....	615	105	80
No. 5 Flywheel press.....	840	105	80
No. 5 Geared press.....	800	110	90
No. 6 Flywheel press.....	1,030	110	90
No. 6 Geared press.....	1,010	130	110
	1,345	130	110

Horning presses	Price	Swinging table	Sliding bolster	V-belt drive, no motor	Flat belt drive, no motor
No. 23 Flywheel press.....	\$500	\$120	\$70	\$95	\$75
No. 24 Flywheel press.....	800	130	100	100	80
No. 25 Flywheel press.....	865	195	100	100	80
No. 23 Geared press.....	765				
No. 24 Geared press.....	1,060				
No. 25 Geared press.....	1,125				

DUPLEX HORNS

9".....	\$540
12".....	660
15".....	990
19".....	1,200

STANDARD HORNS

9".....	\$190
12".....	220
15".....	265
19".....	340
5-gal. Dble.....	430

ROLL FEEDS

No. 603 single, for No. 3 press.....	\$410
No. 604 single, for No. 4 press.....	495
No. 605 single, for No. 5 press.....	550
No. 606 single, for No. 6 press.....	675

ROLL FEEDS—continued

No. 6044 single, for No. 44 double action horning press.....	495
No. 6057 single, for No. 57 double crank press.....	590

DIAL FEEDS

No. 502, for No. 2 press.....	\$355
No. 503, for No. 3 press.....	420
No. 504, for No. 4 press.....	520
No. 505, for No. 5 press.....	560
No. 506, for No. 6 press.....	655

PUNCHING AND DRAW PRESSES

No. 225 Geared punch press.....	\$1,405
No. 225 Flywheel punch press.....	1,170
No. 14-S Drawing press.....	5,000

CANEDY-OTTO MANUFACTURING CO., CHICAGO HEIGHTS, ILL.

21" STATIONARY HEAD FLOOR DRILLS

Capacity—0" to 1½" in cast iron. Eight spindle speeds. 3 power feeds. Back geared, power feed, belt driven.....	\$275
Geared motor drive, less motor only.....	330
Geared motor drive, complete with 1 hp. ball bearing motor, 1,725 r. p. m.: 110/220v—50cy—two or three phase, or 110/220v—60cy—two or three phase.....	382
220/440v—50cy—two or three phase, or 220/440v—60cy—two or three phase or 550v—50cy—two or three phase, or 550v—60cy—two or three phase.....	382
208v—50cy—two or three phase, or 208v—60cy—two or three phase.....	382
110/220v—50cy—single phase, or 110/220v—60cy—single phase.....	385
115v direct current or 230v direct current.....	445
110v, 220v, 440v, or 550v—25cy—two or three phase.....	420
110/220v—25cy—single phase.....	422
V-belted motor drive: Less motor only.....	315
110/220v—50cy—two or three phase, or 110/220v—60cy—two or three phase.....	367
220/440v—50cy—two or three phase, or 220/440v—60cy—two or three phase.....	367
550v—50cy—two or three phase, or 550v—60cy—two or three phase.....	367
208v—50cy—two or three phase, or 208v—60cy—two or three phase.....	367
110/220v—60cy—single phase, or 110/220v—50cy—single phase.....	370
110/220v—25cy—single phase.....	405
110v, 220v, 440v, or 550v—25cy—two or three phase.....	407
115v Direct current or 230v direct current.....	430

21" SLIDING HEAD MOTOR-DRIVEN FLOOR DRILL

Timken and ball bearing equipped throughout. Back geared—Geared power feed. Four power feeds with neutral. Eight spindle speeds—260—540—960—1,280 open belt. 73—150—270—425 r. p. m. with back gear engaged. Spindle—Timken bearing equipped with No. 4 Morse taper hole. Drive—Vertical motor with flat belt. Belt—Endless fabric type furnished. Motor—1 hp. ball bearing 1,125 r. p. m. Control—Magnetic switch with overload and undervoltage protection, including push-button starter station, all wiring enclosed in conduit per NEMA code. Capacity—0" to 1½" in mild steel.

21" sliding head, flat drive, back gear and power feed with square oil grooved or round Tee-slotted table, less motor and switch only.....	\$515
With 1 hp., 1,200 r. p. m. ball bearing motor and magnetic switch and push-button: 220v—50cy—two or three phase, or 220v—60cy—two or three phase.....	605
208v—50cy—two or three phase, or 208v—60cy—two or three phase.....	605
550v—50cy—two or three phase, or 550v—60cy—two or three phase.....	605
440v—50cy—two or three phase, or 440v—60cy—two or three phase.....	605
110/220v—50cy—single phase, or 110/220v—60cy—single phase.....	630
115v direct current or 230v direct current.....	675
110v, 220v, 440v, 550v—25cy—two or three phase.....	625

Extras:

To equip with 2 hp. motor in 50cy or 60cy—2 or 3 phase A. C. or D. C., add.....	40
Reversing magnetic switch with 3 button starter, for tapping.....	60

21" SLIDING HEAD MOTOR-DRIVEN FLOOR DRILL V-BELT DRIVE

Timken and ball bearing equipped throughout. Back geared, geared power feed. Four power feeds with neutral. Sixteen spindle speeds: eight in open belt 300—456—619—824—1,025—1,305—1,648—2,100 r. p. m.; eight with back gear engaged 82—124—160—225—281—358—452—576. Spindle—Timken bearing equipped with No. 4 Morse taper hold. Drive—vertical motor with Vee belt. Belt—endless Vulcoo type furnished. Motor—2 hp. ball bearing 1,140 r. p. m. Control—magnetic switch with overload and undervoltage protection, including separate push-button starter station, all wiring enclosed in conduit per NEMA code. Capacity—0" to 1½" in mild steel.

CANEDY-OTTO MANUFACTURING CO., CHICAGO HEIGHTS, ILL.—Con.

21" SLIDING HEAD MOTOR-DRIVEN FLOOR DRILL V-BELT DRIVE—continued

Drill complete less motor and control only	\$560
Drill complete with 2 hp. motor, magnetic switch and push button starter:	
220v—50cy—two or three phase, or 220v—60cy—two or three phase	675
208v—50cy—two or three phase, or 208v—60cy—two or three phase	675
440v—50cy—two or three phase, or 440v—60cy—two or three phase	675
550v—50cy—two or three phase, or 550v—60cy—two or three phase	675
110/220v—50cy—single phase, or 110/220v—60cy—single phase	745
110v, 220v, 440v, 550v—25cy—two or three phase	780
115v direct current or 230v direct current	810
Extras—Refer to extra listing under 21" Sliding Head Drill.	

21" SLIDING HEAD FLOOR DRILL, BOX TYPE COLUMN, FLAT DRIVE

Timken and ball bearing equipped throughout. Back geared, power feed. Capacity—0" to 1½" mild steel. Eight spindle speeds with four power feeds. Spindle—Timken bearing equipped, No. 4 Morse taper hold in spindle. No. 2 or No. 3 Morse taper optional, if specified. Drive—vertical motor with flat belt. Motor—1 hp. ball bearing 1,125 r. p. m. Belt—endless fabric type furnished. Control—magnetic switch with overload and undervoltage protection, including push-button starter station. All wiring enclosed in conduit, per NEMA code. Note—Multiple spindle models have individual motor and control on each head.

	Number of spindles				
	1	2	3	4	6
Less motor and control	\$600	\$1,250	\$1,900	\$2,700	\$3,900
With 1 hp., 1,200 r. p. m. motor and controls:					
220v—50cy or 60cy—two or three ph., or 208v—50cy or 60cy—two or three phase, or 440v—50cy or 60cy—two or three phase, or 550v—50cy or 60cy—two or three phase	690	1,430	2,170	3,060	4,440
110/220v—50cy or 60cy—single phase	715	1,480	2,245	3,160	4,560
115v Direct Current or 230v D. C.	760	1,570	2,380	3,340	4,860
110v, 220v, 440v, 550v—25cy two or three phase	710	1,470	2,130	3,140	4,560

Drilling head only, less motor and control, \$368.

EXTRAS

To equip with 8-step V pulleys, giving 16 spindle speeds, with back gears and tilting motor bracket to permit changes, including 2 hp. motor add to above prices per spindle in 50cy or 60cy—2 or 3 phase A. C. or D. C.	\$90
To equip with 2 hp. motor in 50cy or 60cy—2 or 3 phase A. C. or D. C., per spindle	40
Reversing magnetic switch with 3 button starter station, for tapping, per spindle	60
Full enclosed belt guard, per spindle	34
Full enclosed telescopic spindle guard, per spindle	55
Tapping attachments for spindle insertion or with casting head for mounting on spindle quill. Specify type:	
⅜" capacity in steel—No. 1E	45
⅜" capacity in steel—No. 2E	60
½" capacity in steel—No. 3E	85
Motor driven coolant pump, piping, valve for one spindle	100
Extra piping, per spindle, with valve	8
Special Gear Box	175
Raising Block 8" high to increase distance from spindle to table	35
Foot operated electrical reversing switch with BX cable, wired ready to operate	23

CANEDY-OTTO MANUFACTURING CO., CHICAGO HEIGHTS, ILL.—Con.

17" SLIDING HEAD FLOOR DRILL, WITH POWER FEED

Timken and ball bearing throughout. Capacity—0 to ¾" in mild steel. Four geared power feeds. Four spindle speeds—260–540–960–1580 r. p. m., Spindle—Timken bearing equipped with No. 3 Morse taper hole. No. 2 Morse taper optional, if specified. Motor—¾ h. p. ball bearing, 1,125 r. p. m. Drive—Vertical motor with flat belt. Control—NEMA snap switch, with wiring between motor and switch in conduit. Belt—Endless fabric type supplied. Tables—Square angling or round oil grooved optional. Specify type wanted.

220v—50cy—two or three phase or 220v—60cy—two or three phase	\$355
208v—50cy—two or three phase or 208v—60cy—two or three phase	360
440v—50cy—two or three phase or 440v—60cy—two or three phase	355
110/220v—60cy—single phase	385
110/220v—50cy—single phase	385
115v direct current or 230v direct current	421

EXTRAS

Magnetic switch with overload and undervoltage protection, including push-button starter station. All wiring enclosed in conduit, per NEMA code.	
For alternating current	\$30
For direct current	62
To equip with 8-step V belt pulley drive with tilting motor bracket to permit belt changes, add	60
Reversing switch for tapping	60
Motor driven coolant pump, piping, valve and tank	100
Foot operated electrical reversing switch with BX cable wired ready to operate	23

17" SLIDING HEAD FLOOR DRILL, WITH LEVER FEED

Timken and ball bearing throughout. Capacity—0" to ¾" mild steel. Spindle—Timken bearing equipped. Four spindle speeds—260–540–960–1,580 r. p. m. Motor—¾ hp. ball bearing, 1,125 r. p. m. Drive—Vertical motor with flat belt. Control—NEMA snap switch, with wiring between motor and switch in conduit. Belt—Endless fabric type supplied. Tables—Square angling or round oil grooved optional. Specify type wanted.

220v—50cy—two or three phase or 220v—60cy—two or three phase	\$300
208v—50cy—two or three phase or 208v—60cy—two or three phase	305
440v—50cy—two or three phase or 440v—60cy—two or three phase	300
110/220v—60cy—single phase	330
110/220v—50cy—single phase	330
115v Direct Current or 230v Direct Current	365
EXTRAS: See extras listed under 17" floor drill, power feed, above.	

14" NO. 3000 FV SLIDING HEAD FLOOR DRILL

Capacity—¾" cast iron, ½" mild steel. Drive—Vertical motor with V belt. Six spindle speeds—345, 715, 1,010, 1,515, 2,200, 3,205 r. p. m. Belt—Endless V belt furnished. Motor—½ hp. ball bearing, 1,750 r. p. m. Switch—NEMA toggle type furnished, wiring between motor and switch in conduit. Spindle—Full ball bearing design. No. 2 Morse taper hole standard. No. 1 Morse taper only if specified.

110/220v—60cy—single phase or 110/220v—50cy—single phase	\$186.00
220v—60cy—two or three phase or 220v—50cy—two or three phase	196.00
208v—60cy—single phase	191.00
208v—60cy—three phase or 440v—60cy—three phase	201.00
115 volt Direct Current	210.00
230 volt Direct Current	210.00
Drill complete, less motor and switch only	161.00

CANEDY-OTTO MANUFACTURING CO., CHICAGO HEIGHTS, ILL.—Con.

EXTRAS

Magnetic switch with push button starter station, mounted on drill with wiring between motor and switch enclosed in conduit—for alternating current.....	30.00
Magnetic switch and station, same as above except for direct current.....	62.00
Full enclosed belt guard for spindle and motor cone pulleys.....	25.00
Full enclosed spindle guard.....	30.00
Foot pedal feed.....	28.00
0" to 1/2" geared Jacobs chuck—No. 6-A.....	7.50
0" to 3/8" geared Jacobs chuck—No. 2-A.....	5.50
No. 1 Morse taper, or No. 2 Morse taper arbor.....	1.50
Foot operated electrical reversing switch with BX cable wired ready to operate.....	23.00

14" NO. 5000 FV SLIDING HEAD FLOOR DRILL

Capacity—0" to 3/8" chuck. Drive—Vertical motor with V Belt. Six spindle speeds—900, 1,350, 2,000, 3,100, 4,800, 5,400 r. p. m. Belt—Endless V type furnished. Motor—1/2 hp. ball bearing, 1,750 r. p. m. Switch—NEMA toggle type furnished, wiring between motor and switch in conduit. Spindle—Full ball bearing design. 0" to 3/8" Jacobs chuck, mounted on taper plug spindle, is standard. No. 1 Morse taper hold, less chuck, optional if specified. Telescopic spindle guard is regular equipment.

110/220v—60cy—single phase or 110/220v—50cy—single phase.....	\$237
208v—60cy—single phase.....	242
220v—60cy—two or three phase or 220v—50cy—two or three phase.....	247
208v—60cy—two or three phase or 440v—60cy—two or three phase.....	252
115 volt direct current.....	265
230 volt direct current.....	265
Drill complete, less motor and switch only.....	217

Extras: Same as for 14" No. 3000FV sliding head floor drill.

16" NO. 3000 FV BOX TYPE COLUMN SLIDING HEAD FLOOR DRILL, SINGLE AND MULTIPLE SPINDLES.

Capacity 3/8" in cast iron, 1/2" in mild steel. Spindle speeds—345, 715, 1,010, 1,515, 2,200, 3,205 r. p. m. Drive—Vertical motor with V type Vulco Belt. Spindle—Full ball bearing design. No. 2 Morse taper only if specified. Motor—1/2 hp. ball bearing, 1,750 r. p. m. Switch—NEMA toggle type furnished, with wiring between motor and switch enclosed in conduit. 6-inch vertical spindle travel is standard.

	Number of spindles				
	1	2	3	4	6
Drill complete, less motor and switch only.....	\$285	\$550	\$805	\$1,070	\$1,595
100/220v—50cy or 60cy—single phase.....	315	610	895	1,190	1,775
220v—50cy or 60cy—two or three phase; 208v—50cy or 60cy—two or three phase; 440v—50cy or 60cy—two or three phase.....	318	610	904	1,202	1,793
115v direct current.....	325	330	925	1,248	1,835
230v direct current.....	325	330	925	1,248	1,835

Drilling head only, less motor and switch and less lower column, \$130.

CANEDY-OTTO MANUFACTURING CO., CHICAGO HEIGHTS, ILL.—Con.

16" NO. 5000 FV BOX TYPE COLUMN SLIDING HEAD FLOOR DRILL, SINGLE AND MULTIPLE SPINDLE.

Capacity—0" to 3/8" in steel. Spindle speeds—900, 1,350, 2,000, 3,100, 4,800, 5,400 r. p. m. Drive—Vertical motor with endless Vulco type V belt. Spindle—Full ball bearing design 0" to 3/8" Jacobs chuck mounted on taper plug spindle is standard. No. 1 Morse taper hole less chuck optional if specified. Telescopic spindle guard regular equipment. Motor—1/2 hp. ball bearing, 1,750 r. p. m. Switch—NEMA toggle type furnished, with wiring between motor and switch enclosed in conduit.

	Number of spindles				
	1	2	3	4	6
Drill complete, less motor and switch only.....	\$278	\$552	\$818	\$1,094	\$1,641
110/220v—50cy or 60cy—single phase.....	303	602	893	1,194	1,791
208v—60cy—single phase.....	308	612	908	1,214	1,821
220v—60cy or 50cy—two or three phase.....	315	626	929	1,242	1,863
208v—60cy—two or three phase or 440v—60cy—two or three phase.....	320	636	944	1,262	1,893
115v direct current.....	328	652	968	1,294	1,941
230v direct current.....	328	652	968	1,294	1,941

16" NO. 10,000 FV BOX TYPE COLUMN SLIDING HEAD FLOOR DRILL, SINGLE AND MULTIPLE SPINDLES

Capacity 0" to 1/2" in steel. Spindle speeds 1,800, 2,700, 4,000, 6,200, 9,600, 10,800 r. p. m. Drive—Vertical motor with endless Vulco Vee belt. Spindle—Full ball bearing design. 0" to 1/2" Jacobs chuck mounted on taper plug spindle is standard. No. 1 Morse taper hole less chuck optional if specified. Telescopic spindle guard regular equipment. Motor—1/2 hp. ball bearing, 3,450 r. p. m. Switch—NEMA toggle type furnished, with all wiring between motor and switch enclosed in conduit.

	Number of spindles				
	1	2	3	4	6
Drill complete, less motor and switch only.....	\$298	\$592	\$878	\$1,174	\$1,761
110/220v—50cy or 60cy—Single phase.....	323	642	903	1,274	1,911
208v—60cy single phase.....	328	652	968	1,294	1,941
220v—60cy or 50cy—Two or three phase.....	335	666	989	1,322	2,013
208v—60cy—Two or three ph or 440v—60cy—Two or three ph.....	340	676	1,004	1,342	2,043
115v Direct Current.....	348	692	1,028	1,374	2,091
230v Direct Current.....	348	692	1,028	1,374	2,091

Drill head only, less base, motor, switch and lower column, \$190.

16" NO. 16 ROYAL SENSITIVE MOTOR-DRIVEN FLOOR DRILL, HIGH SPEED MODEL, FULL BALL BEARING EQUIPPED

Capacity—0" to 1/2". All motors ball bearing. Five spindle speeds—460, 917, 1,700, 2,835, 5,200 r. p. m. Spindle—Ball bearing design having 0" to 1/2" Jacobs chuck mounted on taper plug end, as standard equipment. No. 1 or No. 2 Morse taper hole in spindle, less chuck, optional if specified.

110v—50cy or 60cy single phase, 1/2 hp. split phase motor, built-in switch.....	\$61.50
110/220v—50cy or 60cy single phase 1/2 hp. capacitor type motor, built-in switch.....	67.75
220v—50cy or 60cy three phase, 1/2 hp. motor, including separate switch.....	67.75
440v—60cy—three phase 1/2 hp. motor, including separate switch.....	70.75

CANEDY-OTTO MANUFACTURING CO., CHICAGO HEIGHTS, ILL.—Con.

16" NO. 16 ROYAL SENSITIVE MOTOR-DRIVEN FLOOR DRILL, HIGH SPEED MODEL
FULL BALL BEARING EQUIPPED—continued

110v—50cy—single phase or 220v—60cy single phase, ½ hp. split phase motor, built-in switch.....	\$67.75
110/220v—50cy or 60cy single phase, ½ hp. capacitor-type motor, built-in switch.....	71.25
220v—50cy or 60cy three phase, ½ hp. motor, including separate switch.....	73.50
440v—60cy three phase ½ hp. motor, including separate switch.....	76.75
115v Direct Current ½ hp. motor, built-in switch.....	84.25
230v Direct Current ½ hp. motor, built-in switch.....	85.75
115v Direct Current ½ hp. motor, built-in switch.....	93.75
230v Direct Current ½ hp. motor, built-in switch.....	96.25
Drill complete, less motor only.....	51.00
Complete drilling head only, less motor only.....	36.00
Complete drilling head only, with ½ hp. 110v—60cy single, split phase motor.....	46.75
Ground tubular column, 3" diameter, 61" length.....	6.75
Column adapter, 3" bore.....	3.00

16" NO. 16 ROYAL SENSITIVE MOTOR-DRIVEN FLOOR DRILL, SLOW SPEED MODEL

Identical in design and specifications to high-speed model except for larger spindle cone pulley with five spindle speeds of 385, 732, 1,240, 1,950, 3,110 r. p. m., add to any size motor or voltage as given for high-speed floor drill.....

\$3.00

16" NO. 16 ROYAL SENSITIVE PRODUCTION BOX COLUMN TYPE FLOOR DRILLS, HIGH SPEED MODELS, SINGLE AND MULTIPLE SPINDLES

[Full ball bearing equipped. Ball bearing motors]

Five spindle speeds—460, 917, 1,700, 2,835, 5,200 r. p. m. Spindle—Ball bearing design having 0" to ¼" Jacobs chuck mounted on taper plug end as standard equipment No. 1 or No. 2 Morse taper hole in spindle less chuck, optional if specified.

	Number of spindles				
	1	2	3	4	6
Complete drill, less motor and switch.....	\$169	\$326	\$389	\$552	\$698
<i>All motors below are ½ hp. specify cycle</i>					
110v—50cy or 60cy—single, split phase, built-in switches.....	180	346	419	592	738
110/220v—50cy or 60cy—single phase, capacitor type, built-in switches.....	187	360	440	600	780
220v—50cy or 60cy—three phase, including separate switches.....	188	362	443	604	786
440v—50cy or 60cy—three phase, including separate switches.....	192	370	457	620	810
115v D. C., built-in switches.....	194	374	463	628	822
230v D. C., built-in switches.....	196	378	469	636	834
<i>All motors below are ½ hp. specify cycle</i>					
110v—50cy or 60cy—single, split phase, built-in switches.....	187	360	440	600	780
110/220v—50cy or 60cy—single phase, capacitor type, built-in switches.....	191	368	454	616	804
220v—50cy or 60cy—three phase, including separate switches.....	193	372	460	624	816
440v—50cy or 60cy—three phase, including separate switches.....	197	380	472	640	840
115v D. C., built-in switches.....	213	412	520	704	936
230v D. C., built-in switches.....	215	416	526	712	948

Complete drilling head, including column and adapter, less motor and switch only, \$41.

16" NO. 16 ROYAL SENSITIVE SINGLE AND MULTIPLE PRODUCTION TYPE FLOOR DRILLS, SLOW SPEED MODELS

Identical in design and specifications to high speed models, except for larger spindle cone pulley with five spindle speeds of 385, 732, 1,240, 1,950, 3,110 r. p. m. Add to any size motor or voltage given above, per single spindle..... \$3
Extra list identical to No. 16 Royal single spindle drill.

CANEDY-OTTO MANUFACTURING CO., CHICAGO HEIGHTS, ILL.—Con.

18" NO. 18 ROYAL SENSITIVE MOTOR DRIVEN FLOOR DRILL

Capacity—¾" to 1" in cast iron, depending on HP rating of motor. Full ball bearing design having six spindle speeds: 3,205, 2,200, 1,515, 1,010, 715, 345 with the use of an 1,800 RPM motor; 2,185, 1,470, 1,020, 700, 450, 240 RPM with 1,200 RPM motor; and 1,600, 1,100, 755, 505, 355, 175 RPM with the use of a 900 RPM motor. Standard spindle bore—No. 2 Morse taper. Drive—vertical motor with Vee belt. Belt—endless sturdy Vee type Vulco belt. ½ HP motor standard equipment, switches furnished. Standard Equipment—square angling 14" x 14" table, raise and lower mechanism in table.

Complete unit less motor and control only.....	\$118.00
½ hp., 110/220v—60cy—single phase, 1,725 r. p. m.....	152.00
½ hp., 110/220v—60cy—single phase, 1,200 r. p. m.....	170.00
½ hp., 110/220v—60cy—single phase, 900 r. p. m.....	182.00
½ hp., 220v—50cy or 60cy—three phase, 1,725 r. p. m.....	165.00
½ hp., 220v—50cy or 60cy—three phase, 1,200 r. p. m.....	170.00
½ hp., 220v—50cy or 60cy—three phase, 900 r. p. m.....	182.00
½ hp., 110/220v—50cy—single phase, 1,425 r. p. m.....	153.50
½ hp., 110/220v—25cy—single phase, 1,425 r. p. m.....	167.00
½ hp., 110/220v—25cy—single phase, 715 r. p. m.....	178.00
½ hp., 220v—60cy—three phase, 1,725 r. p. m.....	153.00
½ hp., 220v—25cy—three phase, 1,425 r. p. m.....	178.00
½ hp., 115 volt D. C., 1,725 r. p. m.....	163.50
½ hp., 115 volt D. C., 1,200 r. p. m.....	166.50
¾ hp., 110/220v—60cy—single phase, 1,800 r. p. m.....	162.80
¾ hp., 220v—50cy or 60cy—three phase, 1,800 r. p. m.....	162.80
¾ hp., 110/220v—50cy—single phase, 1,425 r. p. m.....	164.50
¾ hp., 110/220v—25cy—single phase, 1,425 r. p. m.....	182.50
¾ hp., 110v, 208v, 220v, 440v, or 550v—50cy or 60cy—2 or 3 phase, 1,200 r. p. m.....	176.00
¾ hp., 110v, 208v, 220v, 440v, or 550v—50cy or 60cy—2 or 3 phase, 900 r. p. m.....	191.50
¾ hp., 110/220v—50cy or 60cy—single phase, 1,200 r. p. m.....	190.00
¾ hp., 110/220v—50cy or 60cy—single phase, 900 r. p. m.....	242.00
¾ hp., 115 volt D. C. or 230 volt D. C., 1,725 r. p. m.....	173.00
¾ hp., 115 volt D. C. or 230 volt D. C., 1,200 r. p. m.....	237.00
¾ hp., 115 volt D. C. or 230 volt D. C., 900 r. p. m.....	258.00
¾ hp., 110v, 220v, 440v, or 550v—25cy—2 or 3 phase, 750 r. p. m.....	206.00
1 hp., 110v, 208v, 220v, 440v, or 550v—60cy or 50cy—2 or 3 phase, 1,725 r. p. m.....	170.00
1 hp., 110v, 208v, 220v, 440v, or 550v—60cy or 50cy—2 or 3 phase, 1,200 r. p. m.....	179.50
1 hp., 110v, 208v, 220v, 440v, or 550v—60cy or 50cy—2 or 3 phase, 900 r. p. m.....	201.00
1 hp., 110/220v—50cy or 60cy—single phase, 1,800 r. p. m.....	173.50
1 hp., 110/220v—50cy or 60cy—single phase, 1,200 r. p. m.....	209.00
1 hp., 110/220v—50cy or 60cy—single phase, 900 r. p. m.....	264.50
1 hp., 110v, 220v, 440v, or 550v—25cy—2 or 3 phase, 1,500 r. p. m.....	207.50
1 hp., 110v, 220v, 440v, or 550v—25cy—2 or 3 phase, 750 r. p. m.....	207.50
1 hp., 115 volt or 230 volt D. C., 1,725 r. p. m.....	233.00
1 hp., 115 volt or 230 volt D. C., 1,200 r. p. m.....	272.00
1 hp., 115 volt or 230 volt D. C., 850 r. p. m.....	292.00

EXTRAS

Raise and lower mechanism for head.....	8.00
No. 3 Morse taper in spindle.....	10.00
Oil Groove rectangular production table, figure 4.....	20.00
Oil Groove Tee slotted base, figure 2.....	15.00
Foot lever feed attachment, figure 7.....	18.00
Fully enclosed belt guard.....	12.00
Column, 3½" O. D. by 60" long.....	7.00
Foot operated electrical reversing switch with BX cable, wired ready to operate.....	23.00

CANEDY-OTTO MANUFACTURING CO., CHICAGO HEIGHTS, ILL.—Con.

Radial Drills—Direct Motor Spindle Type

FULL ANTI-FRICTION BEARING DESIGN

Eight spindle speeds by means of a 4-speed motor and back gear train. Motor—2 HP constant horsepower-type in either 1,800 or 1,200 r. p. m. having instantaneous forward and reverse rotation. Power raise and lower movement of arm on column. Complete electrical control is furnished as standard equipment. All wiring enclosed in conduit per NEMA code. Capacity—0" to 1½" in mild steel.

Three-foot arm, 9" column, 220v—60cy—three-phase or 440v—60cy—three-phase, 1,800 r. p. m. motor	\$2,300
Three-foot arm, 9" column, 220v—60cy—three-phase or 440v—60cy—three-phase, 1,200 r. p. m. motor	2,490
Three-foot arm, 11" column, 220v—60cy—three-phase or 440v—60cy—three phase, 1,800 r. p. m. motor	2,500
Three foot arm, 11" column, 220v—60cy—three-phase or 440v—60cy—three phase, 1,200 r. p. m. motor	2,690
Four foot arm, 11" column, 220v—60cy—three-phase or 440v—60cy—three phase, 1,800 r. p. m. motor	2,750
Four foot arm, 11" column, 220v—60cy—three-phase or 440v—60cy—three phase, 1,200 r. p. m. motor	2,940
Five foot arm, 11" column, 220v—60cy—three-phase or 440v—60cy—three phase, 1,800 r. p. m. motor	3,300
Five foot arm, 11" column, 220v—60cy—three-phase or 440v—60cy—three phase, 1,200 r. p. m. motor	3,490

We are in a position to furnish these units in 25 cycle also, excepting the unit will have six speeds instead of eight (60, 115, 250, 375, 750, 1,500 r. p. m.). This 25-cycle application can be furnished in 1,425 r. p. m. only. Add to above price with 1,800 r. p. m. motors, \$325.

EXTRAS

Box-type table 16" high by 22" by 20"	\$115
Motor driven coolant pump with piping and valves	100
Universal Box Table 22" x 20" x 24"	475

RADIAL DRILLS

THE CARLTON MACHINE TOOL CO., CINCINNATI, OHIO

Length of arm	Diameter of col.	Speeds in head	Cost D. C. motor	Cost A. C. 220-3-60	Length of arm	Diameter of col.	Speeds in heads	Cost D. C. motor	Cost A. C. 220-3-60
Feet	Inches				Feet	Inches			
3	11	12	\$5,530	\$5,280	6	19	36	\$12,180	\$12,430
4	11	12	5,860	5,610	7	19	36	12,620	12,870
5	11	12	6,190	5,940	8	19	36	13,060	13,310
6	11	12	6,520	6,270	7	22	36	20,625	21,035
4	13	48	7,450	7,700	8	22	36	21,215	21,625
5	13	48	7,810	8,060	9	22	36	21,805	22,215
4	15	48	8,550	8,800	10	22	36	22,395	22,805
5	15	48	8,935	9,185	8	26	36	23,260	23,670
6	15	48	9,320	9,570	9	26	36	23,850	24,260
5	17	48	10,285	10,535	10	26	36	24,440	24,850
6	17	48	10,665	10,915	11	26	36	25,030	25,440
7	17	48	11,105	11,355	12	26	36	25,600	26,010

THE CARROLL-JAMIESON MACHINE TOOL CO., BATAVIA, OHIO

List shows only geared head lathes—they discontinued manufacture of cone head lathes more than a year ago.

C. & J. 12-SPEED GEARED HEAD QUICK CHANGE GEAR LATHES

Arranged for motor drive in cabinet leg, triple Vee belt drive from motor to drive shaft. Timken roller bearings on main spindle. Price does not include motor.

Complete with large and small face plates, steady and follow rests, chuck plate, centers, wrenches and thread indicator. Crated for shipment f. o. b., Batavia, Ohio.

Size (inches)	Actual swing	Length bed					
		5 feet	6 feet	8 feet	10 feet	12 feet	14 feet
15	Inches 15¼	\$1,090	\$1,115	\$1,170	\$1,225	\$1,285	\$1,350
16	16¼	1,170	1,195	1,250	1,305	1,365	1,430

NOTE.—C. & J. 16" lathe can be furnished raised in sand to swing 18¼".

Prices of attachments and extras:		15" and 16" lathes
Arbor for milling cutters (with collars)	-----	\$15.00
Arbor for Woodruff type cutters	-----	8.00
Apron control for clutch pulley (geared head lathes only)	-----	70.00
Boxing for export lathes 8-foot bed and under	-----	30.00
Boxing for export lathes over 8-foot bed	-----	40.00
Centers round, for head or tailstock, each	-----	3.50
Centers, crotch or spur	-----	4.00
Centers, pipe ½ inch to 2½ inches capacity	-----	12.00
Centers, pipe 1½ inches to 3½ inches capacity	-----	15.00
Centers, pipe 2 inches to 8 inches capacity	-----	23.00
Centers, pipe 2½ inches to 12 inches capacity	-----	25.00
Chuck plate, fitted to chuck and lathe spindle	-----	8.00
Chuck plate, semifinished, fitted to spindle	-----	6.00
Collets up to ¾-inch capacity, round, each	-----	6.50
Draw-in attachment (includes one round collet)	-----	45.00
Drill pad	-----	8.00
Fitting drill chuck with taper shank	-----	3.50
Metric gear box and screw, instead of regular	-----	35.00
Micrometer carriage stop	-----	30.00
Milling and keyway cutting attachment (without arbor)	-----	70.00
Oil pan, built into lathe, price for 6-foot bed	-----	40.00
Oil pan, extra per foot over 6-foot lathe bed	-----	4.00
Oil pump and piping	-----	60.00
Plain rest	-----	30.00
Raising 16" lathe in sand to swing 18¼"	-----	165.00
Raising blocks, 2-inch or 4-inch	-----	70.00
Steady rest extra size capacity 3 inches to 7½ inches	-----	35.00
Single pulley drive for geared head lathes instead of motor drive	-----	45.00
deduct	-----	110.00
Taper attachment, standard type	-----	145.00
Taper attachment, telescopic screw type	-----	150.00
Turret: Style "C"	-----	5.00
Thread cutting stop, adjustable	-----	

CEDAR RAPIDS ENGINEERING COMPANY, CEDAR RAPIDS, IOWA

Standard valve facing machine (Model "C")	\$155.00
Wet grinding attachment	28.50
Surface grinding attachment	27.50
Cabinet and wet grinding attachment	72.50
Super-speed valve facing machine	197.50
Wet grinding attachment	29.00
Surface grinding attachment	27.50
Cabinet and wet grinding attachment	72.50
Seat grinder with ball bearing grinder unit (without arbors, wheels or eccentricity)	117.00
Seat grinder with plain bearing grinder unit (without arbors, wheels or eccentricity)	79.50
(Wheels and arbors for both seat grinders price according to size eccentricity)	16.00
Model "F" cylinder boring machine	375.00
Model "FS" cylinder boring machine	322.50
Vortex	150.00
Model "H" piston turning and grinding machine with cam mechanism and power worktable feed, with Cam "A" and six piston cones	950.00
Extra cams (B, C, D, and E) each	9.00
Extra piston cones priced according to size	60.00
Valve attachment	60.00
Main bearing line boring machine with standard equipment and 50' bar longer length boring bars, \$10 per added foot of length	310.00
Babbitt fixtures for Ford A, B, and V-8	68.50

Prices quoted are f.o.b. Cedar Rapids, Iowa, in domestic crating and are subject to change without notice. Machine prices are based upon equipping them with standard alternating current, 110-volt, single-phase, 50- or 60-cycle motors or 220-volt, single-phase, 50- or 60-cycle motors.

CHAMBERSBURG ENGINEERING CO., CHAMBERSBURG, PA.

NOTE.—Prices corrected upon advice of manufacturer, differ from those shown in first edition of "New Machine Tools."

BELT-DRIVEN MODEL "J-2" BOARD DROP HAMMERS, CECOLLOY

Falling weight	Shipping weight	Price, inserted guides	Price, integral guides	Falling weight	Shipping weight	Price, inserted guides	Price, integral guides
Pounds	Pounds			Pounds	Pounds		
1,000	36,300	\$5,677	\$5,491	3,000	99,500	\$11,991	\$11,714
1,500	50,000	7,118	6,909	4,000	131,500	15,364	15,059
2,000	63,500	8,486	8,250	5,000	175,100	19,450	19,118
2,500	80,600	9,782	9,527				

20 to 1 cecolloy anvils, cecolloy frames, forged steel rams.
For additional weight: anvil, 0.057¢ per lb.
For additional weight: ram, 0.159¢ per lb.
Prices include wood pulleys.

MOTOR-DRIVEN MODEL "J-2" BOARD DROP HAMMERS, CECOLLOY

1,000	38,000	\$6,395	\$6,209	3,000	103,400	\$13,609	\$13,332
1,500	51,700	7,927	7,723	4,000	136,800	17,150	16,850
2,000	64,300	9,582	9,345	5,000	182,300	21,586	21,277
2,500	83,500	10,995	10,736				

20 to 1 cecolloy anvils, cecolloy frames, forged steel rams.
Prices include 220/440-volt, 3-phase, 60-cycle A. C. motor and starter.

CHAMBERSBURG ENGINEERING CO., CHAMBERSBURG, PA.—Continued

BELT-DRIVEN MODEL "J-2" BOARD DROP HAMMERS

1,000	35,600	\$6,886	\$6,700	3,000	98,000	\$15,091	\$14,800
1,500	48,200	8,636	8,414	4,000	129,200	19,141	18,832
2,000	61,000	10,514	10,068	5,000	173,000	24,127	23,800
2,500	76,500	11,891	11,627				

20 to 1 steel anvils, steel frames, forged steel rams.
For additional weight: anvils, 0.088¢ per lb.; rams, 0.159¢ per lb.
Prices include wood pulleys.

MOTOR-DRIVEN MODEL "J-2" BOARD DROP HAMMERS

1,000	37,300	\$7,618	\$7,432	3,000	101,800	\$16,741	\$16,455
1,500	50,000	9,459	9,245	4,000	134,500	20,900	20,600
2,000	63,700	11,441	11,195	5,000	180,000	26,327	26,000
2,500	79,300	13,132	12,864				

20 to 1 steel anvils, steel frames, forged steel rams.
Prices include 220/440-volt, 3-phase, 60-cycle A. C. motor and starter.

TYPE "B" HYDRO-PNEUMATIC PRESSES

Size, tons	Stroke	Between columns	Horse-power required	Bed end width	Bed length	Weight	Price	Weight with pedestals	Price with pedestals	Weight with "U" base	Price with "U" base
	Inches	Inches		Inches	Inches	Pounds		Pounds		Pounds	
50	13	27	5	22	60	7,500	\$1,777	7,900	\$1,827	7,200	\$1,777
	18	36	5	30	60	7,750		8,350	1,868	7,450	1,805
75	18	27	5	22	60	8,800	1,914	8,700	1,977	7,700	1,914
	18	30	5	24	60	8,800	1,959	9,100	2,005	7,900	1,959
	18	36	5	30	60	9,750	2,064	10,250	2,127	8,850	2,064
100	24	30	7½	24	60	10,000	2,091	10,500	2,145	9,100	
	24	36	7½	30	60	11,000	2,186	11,600	2,236	10,100	2,186
125	24	30	7½	24	60	12,000	2,259	12,500	2,318	10,800	2,259
	24	36	7½	30	60	13,200	2,405	13,800	2,468	12,000	2,405
150	24	36	10	30	72	14,500	2,686	15,100	2,745	13,100	2,586
250	24	36	10	36	120	28,700	3,832				

Size, tons	Stroke	Between columns	Horse-power required	Base to table	Surface of base	Surface of table	Weight	Price	Extra for stripping cylinder
	Inches	Inches		Inches	Inches	Inches	Pounds		
300	24	42	15	42	42 x 72	42 x 60	32,500	\$5,727	\$300

50- to 250-ton size inclusive, two columns. 300-ton size, four columns, fig. No. 811. Pneumatic pullbacks. Return of all presses approximately 36 inches P. M. Shop air or water pressure used for rapid travel of ram.

VERTICAL WHEEL PRESSES

Size, tons	Inches between bars	Weight	Price	Size, tons	Inches between bars	Weight	Price
		Pounds				Pounds	
100	42	9,200	\$2,814	400	166		
150	42			400	90	25,000	\$4,832
150	165			400	196		
200	48	10,400	2,959	500	54	25,000	4,832
200	48	10,800	3,018	500	60	27,600	5,077
200	66	12,700	3,200	600	66	33,200	5,432
200	66	14,500	3,582	600	84	37,500	5,809
300	54	15,800	3,782	600	100	42,000	6,191
300	78	17,600	4,000	750	184		
300	78	19,300	4,168	750	108		
400	142			800	184		
400	54	18,500	4,209	800	108		

1 Price upon request.

CHAMBERSBURG ENGINEERING CO., CHAMBERSBURG, PA.—Continued

STEEL SIDE TRIMMING PRESSES

	Size hammer	Size press number	Weight	Price	Motor horse-power required	Reduce for sprue
	<i>Pounds</i>		<i>Pounds</i>			
Geared.....	1,200	60 GT	8,700	\$2,732	7½	800#—159
Do.....	2,500	80 GT	10,500	3,236	7½	1,000#—186
Do.....	4,000	100 GT	14,500	3,868	10	1,200#—209
Do.....	6,000	150 GT	25,100	4,650	15	1,450#—250
Do.....	10,000	200 GT	41,500	8,109	15	1,700#—295
Double geared.....	16,000	300 DGT	62,000	11,391	20	2,000#—355
Do.....	22,000	500 DGT				
Flywheel.....	1,200	60 FT	7,600	2,450	7½	
Do.....	2,500	80 FT	8,400	2,891	10	No sprue.
Do.....	4,000	100 FT	12,000	3,509	15	
Do.....	6,000	150 FT	22,500	4,391	20	

¹ 150-ton size, extra for air clutch \$1,700; 4,400 pounds.

The sizes recommended with respect to hammer sizes are for general use only. For specific recommendations, blueprints should be sent to Chambersburg. Prices do not include motors. Flywheel presses (FT) to be driven from line shaft or individual motor mounted independent from press. Air clutch is standard on all geared presses (GT and DGT) 200 size and up.

EXTRAS

Size press number	For first inch increase L to R	For each additional inch increase L to R	Size press number	For first inch increase L to R	For each additional inch increase L to R
60-ton.....	95	14	200-ton.....	145	32
80-ton.....	105	18	300-ton.....		
100-ton.....	123	23	500-ton.....		
150-ton.....	136	27			

CECOSTAMP

Ram inches between guides	Ram inches front to back	Stroke	Approximate shipping weight	Price	Ram inches between guides	Ram inches front to back	Stroke	Approximate shipping weight	Price
	<i>Inches</i>		<i>Pounds</i>			<i>Inches</i>		<i>Pounds</i>	
15.....	12	30	8,500	\$2,291	96.....	48	48	104,400	\$9,759
30.....	24	36	13,850	3,341	96.....	60	48	130,000	11,550
48.....	36	42	43,850	5,159	96.....	96	48	193,200	15,131
48.....	48	42	53,800	6,109	120.....	48	48	135,500	12,027
66.....	36	48	52,800	6,145	120.....	60	48	168,000	14,509
66.....	48	48	93,200	9,164	120.....	96	48	225,000	18,136
66.....	60	48	101,800	9,691	120.....	120	48	283,000	20,045

HIGH-SPEED DUPLEX CAR WHEEL PRESSES

Size, tons	Inches	Weight	Price	Extra pneumatic pullback
		<i>Pounds</i>		
200-400.....	48	43,500	\$10,541	423
250-500.....	48	52,500	11,777	423
300-600.....	48	60,000	13,068	423

SELF-CONTAINED SINGLE FRAME TOOL DRESSING HAMMERS

Falling weight, pounds	Shipping weight	Price
	<i>Pounds</i>	
100.....	2,650	\$1,000
200.....	4,600	1,215
250.....	4,650	1,250
400.....	8,300	1,555

CHAMBERSBURG ENGINEERING CO., CHAMBERSBURG, PA.—Continued

SINGLE FRAME FORGING HAMMERS

Falling weight, pounds	15:1 semisteel anvils semisteel frames	Deduction for 7½:1 semisteel anvil	Falling weight, pounds	15:1 semisteel anvils semisteel frames	Deduction for 7½:1 semisteel anvil
	Shipping weight	Price		Shipping weight	Price
	<i>Pounds</i>			<i>Pounds</i>	
400.....	10,500	\$1,714	3,000	51,000	\$4,641
750.....	19,425	2,159	5,625	61,750	5,445
1,100.....	29,950	3,232	7,500	82,750	7,182
1,500.....	39,250	3,877	11,250	104,000	8,536

DOUBLE FRAME GUIDED RAM STEAM HAMMERS

Falling weight, pounds	Shipping weight	Price	Deduct for 7½:1 anvil	Falling weight, pounds	Shipping weight	Price	Deduct for 7½:1 anvil
			Weight				Weight
	<i>Pounds</i>				<i>Pounds</i>		
1,500.....	38,450	\$4,291	11,250	6,000.....	147,600	\$11,391	45,000
2,000.....	49,200	5,005	15,000	8,000.....	177,400	13,205	60,000
2,500.....	61,250	5,836	18,750	10,000.....	248,000	18,086	75,000
3,000.....	73,200	6,614	22,500	12,000.....	298,800	21,836	90,000
3,500.....	81,200	7,182	26,250	14,000.....	348,600	25,259	105,000
4,000.....	98,400	8,432	30,000	16,000.....	398,500	28,668	120,000
5,000.....	123,000	9,855	37,500				

CHAMBERSBURG PNEUMATIC FORGING HAMMERS—MOTOR DRIVEN

Falling weight, pounds	Net shipping weight	Price	Falling weight, pounds	Net shipping weight	Price
	<i>Pounds</i>			<i>Pounds</i>	
200.....	8,150	\$2,718	2,000.....	74,900	\$10,432
300.....	11,900	3,341	2,500.....	95,000	13,127
500.....	20,500	4,509	3,000.....	106,500	14,491
750.....	29,800	5,241	3,500.....	127,800	16,227
1,000.....	38,600	6,286	4,000.....	149,500	18,005
1,500.....	64,100	9,086	4,500.....	171,500	20,045

¹ Frame and anvil cast integral, one piece.

MODEL "E" STEAM DROP HAMMERS

Falling weight, pounds	Shipping weight	Price	Deduct "B" type piston valve	Falling weight, pounds	Shipping weight	Price	Deduct "B" type piston valve
	<i>Pounds</i>				<i>Pounds</i>		
1,000.....	36,500	\$7,777	377	6,000.....	172,000	\$24,641	582
1,500.....	49,500	9,418	400	8,000.....	227,500	30,414	645
2,000.....	64,500	11,236	436	10,000.....	334,000	39,386	700
2,500.....	79,000	12,827	445	12,000.....	398,600	44,559	727
3,000.....	93,000	14,700	477	14,000.....	450,600	48,341	805
4,000.....	120,000	18,332	509	16,000.....	525,200	59,709	859
5,000.....	148,000	21,818	545				

PRODUCTION MOUNTERS FOR CAR WHEELS

Size, tons	Inches between bars	Weight	Price	Size, tons	Inches between bars	Weight	Price
		<i>Pounds</i>				<i>Pounds</i>	
200.....	1 42			400.....	1 42		
300.....	1 42			400.....	54	19,300	\$4,500
300.....	54	17,100	\$4,064	500.....	54	26,300	5,200

¹ Price upon request.

CHAMBERSBURG ENGINEERING CO., CHAMBERSBURG, PA.—Continued

CONVERTIBLE WHEEL PRESSES

Size, tons	Inches between bars	Weight	Price	Size, tons	Inches between bars	Weight	Price
		<i>Pounds</i>				<i>Pounds</i>	
200.....	1 66			600.....	66	35,900	\$6,382
200.....	1 108			600.....	84	39,000	6,745
300.....	1 66			600.....	100	45,300	7,082
300.....	1 72		\$4,800	600.....	120	49,700	7,509
400.....	66	25,600	5,005	750.....	1 84		
400.....	1 90			750.....	1 108		
400.....	96	32,900	6,118	800.....	1 84		
500.....	84	35,800	6,359	800.....	108	62,000	864

¹ Price upon request.

INCLINE WHEEL PRESSES

Size, tons	Inches between bars	Weight	Price	Size, tons	Inches between bars	Weight	Price
		<i>Pounds</i>				<i>Pounds</i>	
200.....	1 66			600.....	66	34,900	\$6,032
200.....	108	21,000	\$5,200	600 ¹	84	38,000	6,377
300.....	1 66			600 ¹	100	44,300	6,714
300.....	72	19,400	4,064	600.....	120	48,700	7,136
400.....	66	24,800	4,700	750 ¹	1 84		
400.....	1 90		6,380	800.....	1 108		
400.....	96	32,100	5,800	800 ¹	1 84		
500.....	84	34,900	6,032	800 ¹	108	61,000	8,277

THREE-CYLINDER LOCOMOTIVE TYPE

600.....	100	53,000	\$9,505	800.....	108	76,600	\$10,482
----------	-----	--------	---------	----------	-----	--------	----------

¹ Price upon request.² Arranged for booster gear.

MODEL "F" BOARD DROP HAMMERS

Falling weight, pounds	Shipping weight	Price with bronze bearing head	Price with roller bearing head	Falling weight, pounds	Shipping weight	Price with bronze bearing head	Price with roller bearing head
	<i>Pounds</i>				<i>Pounds</i>		
100.....	3,600	\$1,186		1,500.....	39,300	\$4,359	\$4,727
200.....	5,200	1,364		2,000.....	51,000	5,200	5,627
400.....	11,500	1,786		2,500.....	60,000	5,877	6,405
600.....	18,100	2,609		3,000.....	78,000	7,436	8,509
800.....	21,300	2,695		4,000.....	105,000	9,836	11,105
1,000.....	28,000	3,236	\$3,568	5,000.....	135,000	12,150	13,936
1,200.....	32,600	3,641	3,977				

CHAMPION BLOWER & FORGE CO., LANCASTER, PA.

ENGINE LATHES

Size No.	Length	Prices		
		Electric		Engine
		Bench	Floor	
9 inches.....	3'	\$240	\$250	
	4'	250	200	\$300
10 inches.....	4'		400	310
	5'		410	400
	5'		530	420
13 inches.....	6'		550	460
	6'		590	500
	10'		630	550
16 inches.....	6'		680	580
	8'		710	610
	10'		740	

HACK SAWS

Model No.	Prices		
	Power	Electric driven	Electric driven, less motor
0.....	\$13.50		\$56.00
1.....	45.00	\$80.00	550
2.....	80.00	144.00	96.00

HAMMERS

Model No.	Prices	
	Power	Electric driven
0.....		\$155
1.....		230
2.....		600
		\$240
		350
		750

No. 4 Arbor press.....\$200

UPRIGHT DRILLS

	Price
No. 203 1/2.....	\$124.00
No. 203 1/2 P.....	130.00
No. 203 1/2 C. P.....	154.00
No. 203 1/2 E electric driven upright drill.....	250.00
No. 397.....	110.00
No. 397 P.....	116.00
No. 397 C. P.....	140.00

POWER DRILL

	Price
14".....	120.00
24" Back geared.....	360.00
24" Positive gear feed back geared.....	400.00
21" Back geared.....	240.00
21" Positive gear feed back geared.....	280.00
20" Back geared.....	202.00
20" Less back gears.....	196.00
20" With wheel and lever feed.....	186.00
20" With lever feed.....	176.00
Extra for electric drive, less motor.....	46.00
Mounting and wiring customer's motor and switch.....	12.50
Extra for flat belts.....	8.00

CHAMPION BLOWER & FORGE CO., LANCASTER, PA.—Continued

ELECTRIC DRIVEN DRILL

Size	Prices			Extra for positive gear feed
	110 or 220 volt, 60 cycle, single phase	110 or 220 volt, 60 cycle, 2 or 3 phase	115 or 230 volt, D. C.	
20"	\$350	\$310	\$380	\$40
21"	383	342	418	
24"	508	472	538	

ELECTRIC DRIVEN FLOOR DRIVEN DRILL

Size	Prices		
	60 cycle, s. p. or 3-phase, A. C.	110/220 volt, 25-cycle, A. C.	115/230 volt, D. C.
15 A.....	\$109	\$190	\$190
15 B.....	200	215	215
15 C.....	260	275	275

14" Electric driven drill.....	Price \$220
--------------------------------	-------------

NO. 2000 HIGH SPEED DRILL

1 hp. motor.....	200
1/2 hp. motor.....	180
Less motor.....	134

FLOOR DRILLS

Model No.	Prices	
	110 volt, 60 cycle, single phase motor	Less motor
1500 A. C.....	\$58.50	\$48
1600 A. C.....	61.50	51

CHATTANOOGA MACHINERY CO., CHATTANOOGA, TENN.

KEYSEATERS

Machine	Maximum capacity width by length	Belt driven with countershaft		Motor driven, not including motor, switch, or wiring	
		Weight	Price	Weight	Price
No. 0, Catlin Keyseater.....	7/16 x 6.....	400	\$368	590	\$450
No. 1, Catlin Keyseater.....	1/4 x 12.....	1,000	618	1,400	720
No. 2, Catlin Keyseater.....	2 x 19.....	1,400	740	2,000	980
No. 3, Catlin Keyseater.....	2 x 23.....	2,000	980	2,700	1,120
No. 3 1/2, Catlin Keyseater.....	2 1/2 x 23.....	2,200	990	2,900	1,180
No. 4, Catlin Keyseater.....	4 x 28.....	4,800	1,670	5,600	1,910
No. 5, Catlin Keyseater.....	4 x 37.....	5,100	1,850	5,900	2,090
No. 6, Catlin Keyseater.....	5 x 40.....	6,800	2,050	7,425	2,290
No. 7, Catlin Keyseater.....	2 x 38.....	2,700	1,150	3,300	1,340
No. 8, Catlin Keyseater.....	1 1/4 x 13.....	800	538	875	538
No. 15, Catlin Keyseater.....	2 x 90.....	4,500	3,050		3,240
No. 20, Catlin Keyseater.....					
60" stroke.....	5 x 60.....			9,000	3,800
90" stroke.....	5 x 90.....			9,800	4,750

CHISHOLM-RYDER COMPANY, INCORPORATED, NIAGARA FALLS, N. Y.

3" Bar horizontal boring and milling machine..... \$15,000
(This price is for the base machine only.)

THE CINCINNATI BICKFORD TOOL CO., OAKLEY, CINCINNATI, OHIO

	Net weight (approximate)	Price (less motor)
UPRIGHT DRILLS		
	Pounds	
21" Rd. col. Super Service Upright Drill.....	1,900	\$1,650
21" Box col. Super Service Upright Drill.....	2,100	1,705
24" Rd. col. Super Service Upright Drill.....	2,350	1,980
24" Box col. Super Service Upright Drill.....	2,700	2,035
28" Rd. col. Super Service Upright Drill.....	2,650	2,530
28" Box col. Super Service Upright Drill.....	3,100	2,585
RADIAL DRILLS		
	Pounds	
3' 9" dia. col. High Speed Radial Drill.....	4,100	\$3,125
4' 9" dia. col. High Speed Radial Drill.....	4,500	3,335
3' 11" dia. col. Super Service Radial Drill.....	9,000	6,050
4' 11" dia. col. Super Service Radial Drill.....	9,500	6,380
4' 13" dia. col. Super Service Radial Drill.....	10,800	7,700
4' 15" dia. col. Super Service Radial Drill.....	11,300	8,060
4' 18" dia. col. Super Service Radial Drill.....	12,500	8,800
5' 15" dia. col. Super Service Radial Drill.....	13,400	9,185
5' 18" dia. col. Super Service Radial Drill.....	14,500	9,570
5' 19" dia. col. Super Service Radial Drill.....	17,000	10,335
6' 17" dia. col. Super Service Radial Drill.....	18,000	10,945
6' 19" dia. col. Super Service Radial Drill.....	19,200	11,355
7' 19" dia. col. Super Service Radial Drill.....	22,000	12,430
8' 19" dia. col. Super Service Radial Drill.....	23,100	12,870
8' 19" dia. col. Super Service Radial Drill.....	24,400	13,310

Includes driving motor and starter (all others not).
Does not include power traverse or electric column clamping. On all others 13" to 19" column sizes this is standard equipment.

THE CINCINNATI ELECTRICAL TOOL CO., CINCINNATI, OHIO

HEAVY DUTY PEDESTAL GRINDERS

Type HTA-12".....	\$300 C
Type HCA-14".....	345 C
Type HEA-14".....	380 C
Type FFA-18".....	490 C

For other than 50 or 60 cycles, increase price 10%.

Type HT-12".....	405 C
Type HC-14".....	475 C
Type HE-14".....	590 C
Type FF-18".....	726 C

For 12 and 14 inch bench grinders, deduct \$10 from above prices.

For boiler plate guards, increase prices, the equivalent of 15% of A. C. pedestal grinder prices.

COMBINATION WET AND DRY GRINDERS

Type WTA-2 H. P.....	\$440 C
Type WGA-3 H. P.....	450 C

For other than 50 or 60 cycles, increase price 10%.

Type WT-2 H. P.....	\$540 C
Type WG-3 H. P.....	555 C
Surface grinding attachment.....	45 C

WIDE TYPE PEDESTAL GRINDERS

Type WAA-8".....	\$160 A
Type WBA-10".....	235 B
Type WSA-12".....	330 C
Type WCA-14".....	380 C
Type WFA-14".....	425 C

For other than 50 or 60 cycles, increase price 10%.

Type WA-8".....	\$175 A
Type WB-10".....	270 B
Type WS-12".....	435 C
Type WC-14".....	510 C
Type WF-14".....	635 C

For 1/2 hp. bench type, deduct \$20; for 1 hp., \$30.

For boiler plate guards, increase prices, the equivalent of 15% of A. C. pedestal grinder prices.

COMB. PEDESTAL GRINDERS AND BUFFERS

Type KHA-8".....	\$130 A
Type KRA-10".....	210 B
Type KTA-12".....	315 C
Type KVA-14".....	370 C

For other than 50 or 60 cycles, increase price 10%.

THE CINCINNATI ELECTRICAL TOOL CO., CINCINNATI, OHIO—Con.

COMB. PEDESTAL GRINDERS AND BUFFERS—continued

Type KH—8"	\$135 A
Type KR—10"	230 B
Type KT—12"	420 C
Type KV—14"	500 C

For ¼ hp. bench type, deduct \$20; for 1 hp., \$30.

HEAVY DUTY PEDESTAL GRINDERS

Type CFA—18"	\$650 C
Type HGA—20"	705 C
Type JSA—24"	880 C
Type JTA—24"	935 C

For other than 50 or 60 cycles, increase price 10%.

Type CF—18"	900 C
Type HG—20"	975 C
Type JS—24"	1,190 C
Type JT—24"	1,290 C
Wheel Dresser—10 or 12 inch bore flanges (set 4)	30 C

For boiler plate guards, increase prices, the equivalent of 15% of A. C. pedestal grinder prices.

THREE SPEED SNAGGING GRINDERS

Type BAA—18"	\$1,100 C
Type BCA—20"	1,210 C
Type BGA—24"	1,290 C
10 or 12 inch bore flanges (set 4)	50 C

Direct current and odd cycles alternating current, prices on application.

VARIABLE SPEED SNAGGING GRINDERS

Type VCFA—18"	\$1440 D
Type VBKA—24"	1695 D
Type VBMA—30"	1725 D

COMBINATION SINGLE END DISC GRINDERS

Type FHAC—¼ hp.	\$255 B
Type FOAC—1 hp.	315 B
Type HTAC—2 hp.	415 C
Type HCAC—3 hp.	460 C
Type HEAC—5 hp.	575 C
Type FSAC—7½ hp.	715 C

For other than 50 or 60 cycles, increase price 10%.

Type FHC—¼ hp.	\$260 B
Type FOC—1 hp.	295 B
Type HTC—2 hp.	520 C
Type HCC—3 hp.	590 C
Type HEC—5 hp.	785 C
Type FSC—7½ hp.	985 C

DOUBLE END DISC GRINDERS

Type HTAD—2 hp.	\$460 C
Type HCAD—3 hp.	505 C
Type HEAD—5 hp.	610 C
Type FSAD—7½ hp.	835 C

For other than 50 or 60 cycles, increase price 10%.

Type HTD—2 hp.	\$565 C
Type HCD—3 hp.	615 C
Type HED—5 hp.	860 C
Type FSD—7½ hp.	1125 C

PEDESTAL BUFFERS

Type DHA—¼ hp.	\$130 A
Type DRA—1 hp.	200 B

For other than 50 or 60 cycles, increase price 10%.

Type DH—¼ hp.	\$145 A
---------------	---------

For ¼ hp bench type, deduct \$20.00; for 1 hp., \$30.

Type DTA—2 hp.	\$300 C
Type DVA—3 hp.	345 C
Type DFA—5 hp.	380 C
Type DSA—7½ hp.	465 C

For other than 50 or 60 cycles, increase price 10%.

Type DT—2 hp.	\$405 C
Type DV—3 hp.	475 C
Type DF—5 hp.	590 C
Type DS—7½ hp.	675 C

For bench type, deduct \$10 from above prices.

Type DKA—2 hp.	\$275 C
Type DLA—3 hp.	315 C
Type DMA—5 hp.	330 C

For other than 50 or 60 cycles, increase price 10%.

Type DK—2 hp.	380 C
Type DL—3 hp.	445 C
Type DM—5 hp.	540 C

For bench type, deduct \$10 from above prices.

VEE BELT BUFFERS

Type COA—3 hp Single Motor.	\$450 C
Type EOA—5 hp Single Motor.	470 C
Type GOA—7½ hp Single Motor.	530 C
Type HOA—10 hp Single Motor.	585 C
Type LOA—15 hp Single Motor.	710 C

THE CINCINNATI ELECTRICAL TOOL CO., CINCINNATI, OHIO—Con.

VEE BELT BUFFERS—continued

Type DOA—3 hp Double Motor.	685 C
Type MOA—5 hp Double Motor.	730 C
Type NOA—7½ hp Double Motor.	790 C
Type SOA—10 hp Double Motor.	900 C

For "A" dimension 17", add \$50 to above prices. For other than 50 or 60 cycles and direct current, prices on application.

HIGH SPEED CUT-OFF MACHINE

Type JCA—7½ hp.	\$800 D
Type JC—7½ hp.	1025 D
Angle Cutting Vise (if furnished with machine)	50 D

1 H. P. GRINDER, 10" X 1¼" WHEELS

Type GPOA—pedestal grinder.	\$110 B
-----------------------------	---------

2, 3, AND 5 HP PEDESTAL GRINDERS

Type GPTA—2 hp 12" x 2" Wheels.	\$180 C
Type GPCA—3 hp 14" x 2½" Wheels.	205 C
Type GPEA—5 hp 14" x 3" Wheels.	260 C

1, 2, 3, AND 5, HP WIDE SPREAD FOUR BEARING BUFFING AND POLISHING LATHES

Type GPAA—1 hp.	\$125 B
Type GPBA—2 hp.	155 C
Type GPFA—3 hp.	240 C
Type GPGA—5 hp.	295 C

1, 2, 3 AND 5 HP EXTENDED SPINDLE BUFFERS

Type GPDA—1 hp.	\$105 B
Type GPKA—2 hp.	155 C
Type GPLA—3 hp.	175 C
Type GPMA—5 hp.	200 C

1, 2, 3 AND 5 HP COMBINATION GRINDERS AND BUFFERS

Type GPRA—1 hp.	\$125 B
Type GPSA—2 hp.	185 C
Type GPVA—3 hp.	210 C
Type GPWA—5 hp.	265 C

CINCINNATI-GILBERT MACHINE TOOL CO., CINCINNATI, OHIO

RADIAL DRILLS—PRICES AND SPECIFICATIONS

Length of arm (feet)	Diameter of column	Number of spindle speeds	Weight (pounds)	Price ¹
3.....	9"	12	5,400	\$3,315
4.....	9"	12	5,700	3,825
4.....	11"	12	6,600	4,380
3.....	11"	12	7,100	5,100
4.....	11"	12	8,000	5,335
5.....	13"	32	11,000	7,150
4.....	13"	32	11,800	7,480
5.....	15"	32	13,300	8,170
4.....	15"	32	14,000	8,615
5.....	15"	32	15,000	8,860
6.....	17"	32	17,200	9,760
5.....	17"	32	18,200	10,120
6.....	17"	32	19,200	10,485
7.....	19"	32	21,000	11,540
6.....	19"	32	22,000	11,940
7.....	19"	32	24,000	12,340

BORING MILLS

	Weight	Price
FLOOR TYPE (¾" SPINDLE)	Pounds	
36" vertical travel x 36" horizontal travel.	14,000	\$7,300
Extra each additional foot of vertical travel.	500	275
Extra each additional foot of horizontal travel.	400	200
Above price does not include bed plate.		
Bed plates:		
Less than 60 square feet \$35 per square foot.		
More than 60 square feet \$90 per square foot.		
TABLE TYPE (¾" SPINDLE)		
38" x 60" table, 36" vertical travel, 60" face plate to bar support.	25,000	13,500
Extra per foot of vertical travel.	650	350
Extra per 24" of bed length (face plate to bar support).	1,400	400

¹ Prices corrected upon advice of manufacturer, differ from those shown in first edition of "Prices of New Machine Tools."

THE CINCINNATI LATHE & TOOL CO., OAKLEY, CINCINNATI, OHIO

QUICK CHANGE GEARED HEAD—MOTOR DRIVEN LATHES

GEARED HEAD MOTOR DRIVING ENGINE LATHES

Size	Price of lathe	2 foot extra bed	Taper attachment	Size	Price of lathe	2 foot extra bed	Taper attachment
14" x 6'	\$3,170	\$115	\$256	20" x 10'	\$5,031	\$160	\$340
16" x 8'	3,526	121	276	24" x 10'	7,061	232	400
18" x 8'	3,918	130	280				

CINCINNATI MILLING AND GRINDING MACHINES, INC., CINCINNATI, OHIO

MILLING MACHINES

	Weight in pounds	Price		Weight in pounds	Price
M-type vertical milling machines (model EA) No. 2M	3,900	\$4,760	Automatic rise and fall milling machines (ER):		
L-type milling machines (model EL):			2-18	4,650	\$5,640
No. 2 plain	2,950	3,805	2-24	4,850	5,920
No. 2 universal	3,300	4,435	Hydromatic milling machines (model EA) plain 3-24		
MH milling machines (model ED):			3-36	8,200	5,125
No. 2 plain	4,100	4,465	34-36	10,500	6,370
No. 2 universal	4,400	5,270	4-36	12,300	7,320
Dial types, medium speed milling machines (ER):			34-48	10,800	6,860
No. 2 plain	6,250	5,565	4-48	12,600	7,810
No. 3 plain	8,380	6,810	35-48	12,200	7,935
No. 4 plain	9,050	7,070	45-48	14,500	8,890
No. 2 universal	6,600	6,470	5-48	15,000	9,115
No. 3 universal	9,000	7,970	35-60	12,700	8,520
No. 4 universal	10,000	9,680	45-60	15,000	9,465
No. 2 vertical	7,050	6,455	5-60	15,500	9,690
No. 3 vertical	9,200	8,140	36-72	15,500	9,735
No. 4 vertical	9,850	9,190	46-72	16,500	10,685
Dial types, high speed milling machines (model ER):			10" x 36"	17,500	10,905
No. 2 plain	6,350	6,105	36-90	17,500	10,450
No. 3 plain	8,480	7,440	46-90	17,800	11,395
No. 4 plain	9,150	8,760	56-90	18,000	11,620
No. 2 universal	6,700	7,070	Duplex 3-24	10,800	7,175
No. 3 universal	9,100	8,595	3-36	11,000	7,690
No. 4 universal	10,100	10,500	34-36	12,500	8,420
No. 2 vertical	7,100	6,990	4-36	13,800	10,210
No. 3 vertical	9,300	8,790	34-48	13,000	8,910
No. 4 vertical	9,950	9,980	4-48	15,500	10,695
High power milling machines (model HO):			35-48	15,000	9,090
No. 4 plain	10,250	8,125	45-48	17,500	11,770
No. 5 plain	11,500	8,930	5-48	18,500	12,420
No. 4 universal	10,525	9,515	35-60	15,500	10,575
No. 5 universal	11,850	10,590	45-60	18,000	12,355
No. 4 vertical	10,500	8,910	5-60	19,500	13,000
18" plain manufacturing milling machine (OK)	2,350	2,390	36-72	19,000	11,785
No. 0-8 vertical milling machine (model EA) for 50 or 60 cycle, A. C. current	1,700	2,120	46-72	20,000	13,570
No. 0-8 plain automatic milling machine (EA) for 50 or 60 cycle, A. C. current:			56-72	21,700	14,220
Without rise and fall spindle carrier	1,450	1,980	36-90	21,500	12,500
With rise and fall spindle carrier	1,700	2,380	46-90	20,500	14,285
Plain automatic milling machines:			56-90	23,400	14,935
1-12 (model EA)	3,100	3,190	Hydro-tel vertical milling machines (model EM):		
1-18 (model EA)	3,250	3,450	28-60	25,000	18,320
2-18 (model ER)	4,500	4,330	28-120	31,000	21,375
2-24 (model ER)	4,600	4,610	28-120	34,600	22,825
			Hydro-tel horizontal milling machines (model OK):		
			36-72	50,000	26,300
			36-120	54,500	29,950
			Four-spindle 360 degree automatic profiler (model OT)	10,300	14,850

CINCINNATI MILLING AND GRINDING MACHINES, INC., CINCINNATI, OHIO—Continued

CUTTER SHARPENING MACHINES

No. 2 cutter and tool grinder (model EM):	2,190	\$1,545
Plain machine	2,325	1,975
Universal machine	1,350	2,915
Monoset cutter and tool grinder (model ER)		

BROACHING MACHINES

Vertical Hydro-Broach Machines:			Duplex machines—fixed table (model ER):		
1-30, single ram machines—fixed table (model ER):	3,400	\$3,165	1-30	5,100	\$4,740
3-30	8,050	3,785	3-30	8,500	5,735
3-48	8,700	4,210	3-48	9,500	6,385
5-42	9,700	4,440	5-42	12,000	6,730
5-64	10,500	4,890	5-64	13,200	7,410
10-64	13,600	6,690	10-64	21,000	10,125
10-66	14,600	7,260	10-66	23,000	10,985
15-48	18,500	8,050	15-48	29,500	12,170
15-66	20,200	9,140	15-66	32,000	13,805
25-48	25,300	10,930	25-48	38,000	16,490
25-66	27,600	12,465	25-66	42,500	18,790
Single ram machines—receding table (model ER):			Duplex machines—swivel table (model ER):		
1-30	3,400	3,780	1-30	5,100	5,665
3-30	8,050	4,400	3-30	8,500	6,675
3-48	8,700	4,825	3-48	9,500	7,310
5-42	9,700	5,055	5-42	12,000	7,655
5-64	10,500	5,505	5-64	13,200	8,335
10-64	13,600	7,420	10-64	21,000	11,220
10-66	14,600	7,990	10-66	23,000	12,080
15-48	18,500	8,785	15-48	29,500	13,265
15-66	20,200	9,875	15-66	32,000	14,900
25-48	25,300	11,680	25-48	38,000	17,585
25-66	27,600	13,200	25-66	42,500	19,885

GRINDING MACHINES

Plain Hydraulic Grinding Machines (model EA):			Plain self-contained grinding machines (model EM)—Con.		
6" x 18"	7,200	\$5,145	14" x 120"	21,700	\$15,415
6" x 30"	7,300	5,595	14" x 144"	24,100	16,535
10" x 18"	7,400	6,435	14" x 168"	26,500	17,645
10" x 36"	7,550	6,940	16" x 36"	14,300	12,715
Plain hydraulic grinding machines (model ER):			16" x 48"	15,500	13,165
6" x 18"	6,100	4,600	16" x 72"	17,900	14,190
6" x 30"	6,600	4,905	16" x 96"	20,300	15,240
10" x 18"	8,600	7,835	16" x 120"	22,700	16,780
10" x 36"	9,930	8,240	16" x 144"	25,100	18,365
10" x 48"	10,800	8,635	16" x 168"	27,500	20,255
10" x 72"	12,600	9,045	Plain self-contained grinding machines (model OK):		
10" x 96"	14,400	9,455	20" x 96"	42,000	27,235
Universal hydraulic grinding machines (model ER):			20" x 120"	46,000	29,300
12" x 24"	5,700	5,420	20" x 144"	51,000	31,360
12" x 36"	6,100	5,940	20" x 168"	56,000	33,425
12" x 48"	6,700	6,535	20" x 192"	61,000	35,490
12" x 72"	7,000	7,755	24" x 96"	44,500	29,090
14" x 36"	7,600	6,840	24" x 120"	48,500	31,150
14" x 48"	8,400	7,610	24" x 144"	53,500	33,215
14" x 72"	9,800	8,175	24" x 168"	58,500	35,280
16" x 36"	7,700	7,085	24" x 192"	63,500	37,345
16" x 48"	8,500	7,720	Plain self-contained grinding machines (model OK):		
16" x 72"	9,900	8,390	28" x 96"	47,000	30,940
18" x 36"	7,800	7,285	28" x 120"	51,000	33,005
18" x 48"	8,600	7,920	28" x 144"	56,000	35,070
18" x 72"	10,000	8,590	28" x 168"	61,000	37,135
Plain self-contained grinding machines (model EM):			28" x 192"	66,000	39,200
14" x 36"	13,300	11,500	Centerless grinding machines:		
14" x 48"	14,500	12,355	No. 2 Model EA	6,800	5,485
14" x 72"	16,900	13,080	No. 3 Model EA	11,000	6,775
14" x 96"	19,300	14,075	No. 4 Model ER	12,500	7,365

LAPPING MACHINES

Centerless lapping machine (model ED)	10,000	\$7,020
---------------------------------------	--------	---------

THE CINCINNATI PLANNER CO., CINCINNATI, OHIO

DOUBLE HOUSING PLANNER

	Weight	List price	Extra per foot of bed	Extra rail-head	Extra for side head
	Pounds				
24" x 24" x 6', standard.....	8,000	\$3,770	\$170	\$675	(1)
30" x 30" x 6', standard.....	11,500	4,905	240	710	(1)
30" x 30" x 8', heavy.....	15,900	7,065	265	780	\$1,105
36" x 36" x 8', standard.....	16,500	7,465	265	780	1,105
36" x 36" x 8', hypro.....	17,000	7,540	280	780	1,105
36" x 36" x 8', hypro.....	23,000	9,810	280	935	1,310
42" x 42" x 10', hypro.....	31,200	11,125	315	970	1,450
42" x 42" x 10', hypro.....	39,000	13,180	350	1,100	1,815
48" x 48" x 10', hypro.....	44,000	14,415	400	1,100	1,980
56" x 56" x 10', hypro.....	50,000	15,445	425	1,160	2,045
62" x 62" x 12', hypro.....	76,000	19,910	505	1,445	2,860
72" x 72" x 12', hypro.....	84,000	24,755	570	1,445	2,860

OPEN SIDE PLANERS

	Weight	List price	Extra per foot of bed	Extra rail-head	Extra for side head
	Pounds				
36" x 36" x 8'.....	40,000	\$13,178	\$340	\$970	\$1,980
48" x 48" x 10'.....	58,000	17,500	435	1,100	2,200
60" x 60" x 12'.....	90,000	23,825	545	1,445	2,970

BORING MILLS—ALL BASED WITH TWO RAILHEADS

Size	Weight	List price	Side head	Size	Weight	List price	Side head
	Pounds				Pounds		
54".....	36,000	\$15,245	\$3,850	8'.....	104,000	\$31,790	\$4,950
64".....	40,000	16,940	3,850	10'.....	123,000	34,375	4,950
6'.....	60,000	19,965	4,290	12'.....	150,000	41,140	4,950
7'.....	69,000	22,265	4,510				

1 Not furnished.

THE CINCINNATI SHAPER CO., CINCINNATI, OHIO

CINCINNATI ALL-STEEL SHEARS

Series number of shear	Capacity mild steel	Length between housings	Horsepower of motor	Approximate shipping weight	Price with standard throat	Series number of shear	Capacity mild steel	Length between housings	Horsepower of motor	Approximate shipping weight	Price with standard throat
	Gage	" "		Pounds			Inches	" "		Pounds	
1014.....	12	14 3	7½	16,000	\$3,985	2508.....	¾	8 3	10	21,000	\$5,075
1006R.....	10	6 3	5	9,000	2,800	2510.....	¾	10 3	10	24,500	5,435
1008.....	10	8 3	5	10,700	2,970	2512.....	¾	12 3	15	30,000	6,180
1010.....	10	10 3	5	11,900	3,290	4314.....	¾	14 3	20	30,000	9,405
1012.....	10	12 3	7½	14,500	3,675	4316.....	¾	16 3	20	58,500	10,890
1413.....	10	13 3	7½	21,000	4,790	2506.....	¾	6 3	15	20,000	4,830
1414.....	10	14 3	7½	24,000	4,940	4308.....	¾	8 3	15	20,000	7,365
1006.....	¾	6 3	5	9,000	2,800	4310.....	¾	10 3	15	37,000	8,110
1008R.....	¾	8 3	5	10,700	2,970	4312.....	¾	12 3	20	43,500	8,850
1408.....	¾	8 3	5	14,000	3,590	6214R.....	¾	14 3	25	74,000	-----
1410.....	¾	10 3	5	16,300	3,920	4306.....	¾	6 3	15	26,000	6,810
1412.....	¾	12 3	7½	19,500	4,395	4308R.....	¾	8 3	20	30,000	7,365
1813.....	¾	13 3	10	23,000	5,410	6208R.....	¾	6 3	20	44,000	11,130
1814.....	¾	14 3	10	25,000	5,695	6208.....	¾	8 3	25	52,000	11,965
2516.....	¾	16 3	15	39,000	7,870	6210.....	¾	10 3	25	60,000	12,945
2518.....	¾	18 3	15	45,500	9,210	6212.....	¾	12 3	30	68,000	14,155
1406.....	¾	6 3	5	12,000	3,445	10014.....	¾	14 3	40	95,000	-----
1808.....	¾	8 3	7½	15,000	4,050	6206.....	1	6 3	25	44,000	11,130
1810.....	¾	10 3	7½	17,000	4,395	10008.....	1	8 3	30	66,000	14,280
1812.....	¾	12 3	10	22,000	5,075	10010.....	1	10 3	40	74,000	15,365
2513.....	¾	13 3	15	32,000	6,435	10012.....	1	12 3	40	86,000	17,305
2514.....	¾	14 3	15	34,000	6,720	10006.....	1¼	6 3	30	60,000	13,310
1806.....	¾	6 3	10	12,500	3,895	10008R.....	1¼	8 3	40	66,000	14,280

THE CINCINNATI SHAPER CO., CINCINNATI, OHIO—Continued

PRESS BRAKES

Series	Length	Total over-all die face surface	Forming capacity	Approximate shipping weight	Price
				Pounds	
40.....	4	6 0	14" x 4'.....	11,000	\$2,910
40.....	6	8 0	10 ga. x 6'.....	13,000	3,030
40.....	8	10 0	11 ga. x 8'.....	14,000	3,155
40.....	10	12 0	12 ga. x 10'.....	16,500	3,290
40.....	12	14 0	14" x 6'.....	14,200	3,245
50.....	6	8 0	14" x 8'.....	15,600	3,390
50.....	8	10 0	14" x 10'.....	18,200	3,540
50.....	10	12 0	10 ga. x 10'.....	20,300	3,880
50.....	12	14 0	12 ga. x 12'.....	17,000	3,975
70.....	4	6 0	14" x 4'.....	20,000	4,100
70.....	6	8 0	14" x 6'.....	23,000	4,220
70.....	8	10 0	14" x 8'.....	26,000	4,350
70.....	10	12 0	14" x 10'.....	30,000	4,590
70.....	12	14 0	10 ga. x 12'.....	23,000	4,285
90.....	6	8 0	14" x 6'.....	26,000	4,470
90.....	8	10 0	14" x 8'.....	29,000	4,655
90.....	10	12 0	14" x 10'.....	33,500	5,080
90.....	12	14 0	14" x 12'.....	32,000	6,145
120.....	6	8 0	14" x 6'.....	37,000	6,830
120.....	8	10 0	14" x 8'.....	42,000	6,545
120.....	10	12 0	14" x 10'.....	45,000	6,865
120.....	12	14 0	14" x 12'.....	40,000	6,955
130.....	8	10 8	14" x 8'.....	48,000	7,170
130.....	10	12 8	14" x 10'.....	52,000	7,540
130.....	12	14 8	14" x 12'.....	58,000	8,105
130.....	14	16 8	14" x 14'.....	58,000	9,185
190.....	6	8 8	14" x 6'.....	63,000	9,370
190.....	8	10 8	14" x 8'.....	70,000	9,620
190.....	10	12 8	14" x 10'.....	76,000	9,995
190.....	12	14 8	14" x 12'.....	80,000	9,870
210.....	8	12 0	14" x 12'.....	70,000	10,245
210.....	10	14 0	14" x 12'.....	85,000	10,740
210.....	12	16 0	14" x 12'.....	93,000	11,485
210.....	14	18 0	14" x 12'.....	86,000	12,350
340.....	8	12 0	14" x 12'.....	93,000	12,910
340.....	10	14 0	14" x 12'.....	100,000	13,535
340.....	12	16 0	14" x 12'.....	110,000	14,510
340.....	14	18 0	14" x 14'.....	120,000	15,575
340.....	16	20 0	14" x 16'.....	114,000	-----
400.....	8	12 0	14" x 12'.....	121,000	-----
400.....	10	14 0	14" x 12'.....	128,000	-----
400.....	12	16 0	14" x 12'.....	124,000	-----
500.....	8	12 0	1" x 12'.....	132,000	-----
500.....	10	14 0	1" x 12'.....	140,000	-----
500.....	12	16 0	1" x 12'.....	140,000	-----

Two-speed mechanism \$550 additional all sizes up to 400 series. Longer stroke, greater shut height, larger throat than standard available at an additional charge. Load indicator, \$100.

Standard equipment includes ram elevating motor; narrow, universal, or flat top filler block; and ar-ranging machine for motor drive including motor sheave, V belts and wiring, but not including drive motor.

Drive motors should be 1,800 r. p. m., high torque, approximately 10 percent slip for a. c.; compound wound for d. c.

The 40, 50, 70, 90, 120, 130 series are shipped assembled on skids. Additional charge for dismantling for shipment.

The 190, 210, 340, 400, and 500 series are shipped dismantled.

THE CINCINNATI SHAPER CO., CINCINNATI, OHIO—Continued

CINCINNATI SHAPERS

[Prices f. o. b. cars Cincinnati]

Machine—{Stroke Service.....	Utility		Cincinnati Rapid Traverse										Railroad	
	16"	20"	16"	20"	20"	24"	24"	28"	32"	36"	32"	36"	32"	36"
			Hvy.	Std.	Hvy.	Std.	Hvy.	Hvy.	Hvy.	Hvy.				
Single pulley belt drive, including vise	\$2,150	\$2,205	\$2,445	\$2,505	\$2,670	\$2,760	\$3,135	\$3,220	\$3,490	\$3,505	\$4,300	\$4,465		
Motor drive, flat belt, no motor														
Motor drive, V belt, no motor	\$125	\$125	\$125	\$125	\$130	\$130	\$135	\$135	\$160	\$160	\$160	\$160		
Motor drive, silent chain, no motor	\$125	\$125	\$125	\$125	\$130	\$130	\$135	\$135	\$160	\$160	\$160	\$160		
Universal Table making Universal Shaper	\$310	\$310	\$310	\$310	\$325	\$325	\$390	\$390	\$500	\$540				
Table support for Universal Table			\$60	\$60	\$70	\$70	\$80	\$80	Incl.	Incl.				
Power Rapid Traverse to table	\$55	\$55	Incl.	Incl.	Incl.	Incl.	Incl.	Incl.	Incl.	Incl.	Incl.	Incl.		
Credit for omitting Power Rapid Traverse			\$55	\$55	\$60	\$60	\$70	\$70	\$80	\$80	\$80	\$85		
Vise regularly furnished, single or double screw inches	13	13	13	13	13	13	15	15	15	15	15	15		
Motor recommended, r. p. m. 1,800—horsepower	3-5	3-5	5	5	5	7½	10	10	10	10-15	10	10-15		

Standard equipment.—Includes single or double screw vise, automatic visible oiling system, internal transmission, clutch and brake, belt and ram guards, and all necessary wrenches.

Motor drive specifications.—Constant speed motor for either a. c. or d. c. belt driven, having idler pulley on slack side furnished with shaper, all completely guarded. Motor must be arranged for wall mounting with pulley on right when facing wall with terminals on bottom. Motor and control delivered to our factory will be mounted and wired.

32" and 36" Railroad Shapers.—Are 32" and 36" Heavy Duty shapers equipped with special railroad table, circular feeding head, and boom crane for machining locomotive driving boxes and cross heads.

ATTACHMENTS

[Additional price for machine equipped with the following attachments]

Machine—{Stroke Service.....	16" and 20" U.	20"	20"	24"	24"	28"	32"	36"
	16" Hvy.	Std.	Hvy.	Std.	Hvy.	Hvy.	Hvy.	Hvy.
Power feed to head with automatic stop	\$160	\$160	\$160	\$160	\$180	\$180	\$195	\$195
Concave attachment	90	90	90	90	115	115	125	125
Auxiliary front cross feed	180	180	180	180	225	225	270	270
Tilting top to table	170	170	170	170	195	195	195	195
Supplementary table top								
Power vertical movement to table								
Mould makers tilting table	285	285	320	320	340	350	450	450
Circular feeding table, convex attachment								
Cone arbor								
Index centers, 8" swing, 18" opening	150	150	150	150	175	175	175	175
Circular feeding head and special table for locomotive driving boxes							1,500	1,500
Circular feeding head if purchased without driving box table							1,280	1,280
Driving box table if purchased without circular feeding head							1,365	1,365
Driving rod brass attachment					310	310	310	310
Shoe and wedge chuck					150	150	150	150
Boom Crane fitted to machine					280	280	1,280	1,280
13" Double Screw Vise, jaws 2½" x 12", open 13"	165	165	165	165				
15" Double Screw Vise, jaws 3" x 15", open 15"								
13" Single Screw Vise, jaws 2½" x 12", open 13"					195	195	195	195
15" Single Screw Vise, jaws 3" x 15", open 15"	175	175	175	175				
13" Mould Makers Vise, jaws 4½" x 12", open 13"					195	195	195	195
15" Mould Makers Vise, jaws 5" x 15", open 15"	225	225	225	225				
13" Double Screw Steel Vise	280	280	280	280	280	280	280	280
15" Double Screw Steel Vise					335	335	335	335

¹ Included with Railroad Shapers.

THE CINCINNATI SHAPER CO., CINCINNATI, OHIO—Continued

WEIGHTS

Machine—{Stroke Service.....	16" Util.	20" Util.	16" Hvy.	20" Std.	20" Hvy.	24" Std.	24" Hvy.	28" Hvy.	32" Hvy.	36" Hvy.	32" R.R.	36" R.R.
Single pulley—Belt drive:												
Net weight—pounds	3,450	3,600	3,770	3,850	4,400	4,500	6,000	6,250	7,150	7,400	8,800	9,100
Domestic shipping	3,700	3,900	4,000	4,050	4,600	4,700	6,300	6,600	7,400	7,700	9,200	9,500
Export shipping	4,700	4,900	5,000	5,050	5,600	5,800	7,400	7,700	8,800	9,100	10,700	11,000
Cubic feet export packing	120	125	128	134	150	160	190	200	220	230	300	330
Motor drive—Without motor:												
Net weight	3,650	3,800	4,000	4,100	4,650	4,750	6,300	6,500	7,350	7,600	9,100	9,400
Domestic shipping	4,000	4,200	4,300	4,350	4,900	5,000	6,600	6,800	7,600	7,900	9,500	9,800
Export shipping	4,700	4,900	5,100	5,200	5,800	6,100	7,700	8,000	9,000	9,300	11,000	11,400
Cubic feet export packing	120	125	128	134	150	160	190	200	220	230	300	330
Motor drive—including motor:												
Net weight	3,850	4,000	4,200	4,350	4,850	5,000	6,800	7,000	7,850	8,100	9,400	9,700
Domestic shipping	4,150	4,300	4,400	4,550	5,200	5,300	7,100	7,200	8,000	8,200	9,800	10,100
Export shipping	4,900	5,100	5,300	5,400	6,100	6,300	8,100	8,300	9,350	9,600	11,500	11,800
Cubic feet export packing	140	145	140	148	165	175	210	220	240	250	300	330
Universal Shapers:												
Add to weight of any equipment above, for Shapers equipped with Universal Table:												
Pounds	350	350	350	350	300	300	425	425	800	800		
Cubic feet	0	0	0	0	0	0	0	0	0	0		

CLEERMAN MACHINE TOOL CO., GREEN BAY, WIS.

JIG BORERS

[Base prices of machines arranged for motor drive but without motor included]

Model No.	With end measuring equipment		With precision lead screws		With both end measures and precision lead screws	
	Weight	Price	Weight	Price	Weight	Price
	Pounds		Pounds		Pounds	
1824	5,600	\$5,900	5,500	\$5,900	5,700	\$6,450
1830	6,400	6,600	6,300	6,650	6,500	7,250
1835	7,200	7,700	7,100	7,800	7,300	8,400

DRILLING MACHINES

Size (feet)	Round column		Box column	
	Weight	Price	Weight	Price
	Pounds		Pounds	
25	2,500	\$2,000	2,700	\$2,050
30	3,800	2,850	3,650	2,600

THE CLEVELAND AUTOMATIC MACHINE CO., CLEVELAND, OHIO

SINGLE SPINDLE MACHINES

Size and model	Weight	Price	Size and model	Weight	Price
	Pounds			Pounds	
9 1/2" A.....	1,915	\$3,520	8".....	24,500	\$16,900
1 1/4" A.....	3,340	4,150	9 1/2" B.....	1,380	2,810
1 3/4" A.....	4,390	4,650	1 1/4" B.....	2,475	3,465
2" A.....	6,725	5,450	1 1/2" B.....	4,950	4,375
2 1/4" A.....	6,775	5,650	1 3/4" B.....	5,500	4,595
3 1/4" A.....	10,350	9,100	1 1/2-18" B.....	7,160	5,225
5 3/4" A.....	19,000	13,500	2 1/4-18" B.....	7,160	5,800

MULTIPLE SPINDLE MACHINES

1 1/4" K-4.....	7,450	\$3,085	3" K-4.....	26,500	\$13,190
1 3/4" K-4.....	9,425	8,785	3 1/4" K-4.....	26,800	13,970
2" K-4.....	11,100	9,100	1 3/4" K-6.....	11,750	10,645
2 1/4" K-4.....	16,200	10,500	2" K-6.....	21,000	14,700
	16,750	11,375			

THE CLEVELAND CRANE & ENGINEERING CO., WICKLIFFE, OHIO

Cyril Bath & Co., General Sales Agents, Cleveland, Ohio

STEELWELD BENDING PRESSES

Model	Normal capacity	Price of standard machine	Extension of bed and ram per foot	2-speed attachment	Additional stroke per inch or fraction	Main drive motor and control
	Tons					
F-3-6.....	112	\$4,600	\$70	\$475	\$250	5 hp., \$144
F-3-8.....	112	4,800	70	475	250	
F-3-10.....	112	5,050	70	475	250	
F-3-12.....	112	5,450	70	475	250	
H-3 1/2-6.....	150	5,300	80	475	250	7 1/2 hp., \$204
H-3 1/2-8.....	150	5,450	80	475	250	
H-3 1/2-10.....	150	5,700	80	475	250	
H-3 1/2-12.....	150	6,050	80	475	250	
I-4-8.....	187	6,650	95	550	300	10 hp., \$229
I-4-10.....	187	7,000	95	550	300	
I-4-12.....	187	7,450	95	550	300	
J-4 1/2-10.....	225	8,100	105	550	300	
J-4 1/2-12.....	225	8,700	105	550	300	15 hp., \$325
J-4 1/2-14.....	225	9,350	105	550	300	
K-5-10.....	300	10,350	120	650	400	
K-5-12.....	300	11,150	120	650	400	
L-5 1/2-10.....	375	12,000	150	750	500	25 hp., \$466
L-5 1/2-12.....	375	12,450	150	750	500	
L-5 1/2-14.....	375	13,350	150	750	500	
M-6.....	450	14,450	150	750	500	

¹ Prices on request.

Standard equipment includes ram adjustment motor and control, micrometer dial gage, automatic pressure lubricating system, necessary wrenches, plain filler block, ram arranged for taper work, main drive arranged for V belt motor drive with pulley and belts furnished, but without main drive motor or control.

Extra for load indicator..... \$135
Extra for set of (2) universal gages with screw adjustment..... 75
Extra for wiring and mounting motor and control if bought elsewhere..... 30

Motor recommended is a 40° continuous-duty, high-slip, high-torque punch-press type, with magnetic, reversing, full voltage starter and a heavy-duty start-stop-reverse push-button control. Speed 1,800 r. p. m. on all sizes up to Model J. Models J, K, and L require 1,200 r. p. m. motor.

THE CLEVELAND HOBBING MACHINE CO., CLEVELAND, OHIO

Model No. 130, single spindle universal.....	\$3,300
Model No. 130, special single spindle differential type.....	4,000
Model No. 135, single spindle axle shaft.....	3,300
Model No. 140, single spindle—16" travel.....	3,800
Model No. 140, single spindle—differential type.....	4,500
Model No. 145, single spindle—flywheel gear machine.....	5,000
Model No. 150, single spindle—thread miller.....	3,500
Model No. 155, single spindle—infeed machine.....	4,200
Model No. 160, single spindle rigidhobber—combination infeed and vertical feed (same as Model No. 130, but including infeed attachment).....	4,500
Model No. 165, single spindle rigidhobber—combination infeed and vertical feed (same as Model No. 135, but including infeed attachment).....	4,500
Model No. 310, single spindle—spiral bevel ring gear machine.....	7,500
Model No. 410, single spindle—spiral bevel pinion machine.....	7,500
Model No. 220, eight spindle rotary machine.....	21,500
Model No. 225, eight spindle rotary—axle shaft machine.....	21,500
Model No. 616, single spindle rigidturner.....	5,000
Model No. 8618, eight spindle rigidturner.....	27,000

THE CLEVELAND PLANER CO., CLEVELAND, OHIO

OPENSIDE PLANERS

Standard size	1 rail head	Extra 2'	Extra rail head	Extra side head
26" x 26" x 6'.....	\$4,628	\$409	\$608	\$717
30" x 30" x 8'.....	6,782	563	658	804
36" x 36" x 8'.....	8,201	717	732	878
42" x 42" x 10'.....	9,503	799	799	932
48" x 48" x 12'.....	11,633	1,024	915	1,098
60" x 60" x 14'.....	18,821	1,186	1,062	1,244
72" x 72" x 16'.....	23,250	1,318	1,172	1,355

Widening, types of drive, and electrics are extra.

CLEVELAND PUNCH & SHEAR WORKS COMPANY, CLEVELAND, OHIO

VERTICAL OPEN GAP PUNCH AND SHEAR WITH SINGLE PUNCHING ATTACHMENT

DESCRIPTION OF MACHINE TOOL

	Angle shear	Bar shear	Plate shear	Gear guards
Type "C":				
12" throat.....	\$1,810.00	\$180.00	\$120.00	\$150.00
24" throat.....	1,980.00	180.00	120.00	150.00
36" throat.....	2,270.00	180.00	120.00	150.00
Type "EF":				
12" throat.....	2,670.00	290.00	200.00	200.00
15" throat.....	2,730.00	290.00	200.00	200.00
18" throat.....	2,950.00	290.00	200.00	200.00
24" throat.....	3,400.00	290.00	200.00	200.00
36" throat.....	3,760.00	290.00	200.00	200.00
48" throat.....	4,100.00	290.00	200.00	200.00
60" throat.....				
Type "G":				
12" throat.....	3,930.00	450.00	270.00	200.00
24" throat.....	4,330.00	450.00	270.00	200.00
36" throat.....	4,660.00	450.00	270.00	200.00
48" throat.....	5,180.00	450.00	270.00	200.00
Type "V"-15" throat.....	6,500.00	640.00	335.00	300.00
Type "W": 18" throat.....	7,660.00	640.00	320.00	300.00
Type "X": 18" throat.....	10,983.00	690.00	450.00	300.00
Type "IG": 24" throat.....	5,625.00			200.00
Type "I": 24" throat.....	7,085.00			200.00
Horizontal punching machine:				
"AI" type: 12" throat.....	3,000.00			200.00
Type "T":				
10" throat.....	2,641.00			175.00
15" throat.....	2,691.00			175.00
Horizontal bending machines:				
No. 1, 9" dia. top roll, 7" dia. lower roll.....	3,219.00			175.00
No. 1 1/2 light duty.....	3,500.00			175.00
No. 1 1/2 heavy duty.....	3,912.00			175.00
No. 2, 11" dia. top roll 8" dia. lower roll.....	9,668.00			200.00

**CLEVELAND PUNCH & SHEAR WORKS COMPANY, CLEVELAND,
OHIO—Continued**

SPECIFICATIONS—VERTICAL, OPEN GAP PUNCHING, SHEARING, COPING, NOTCH-
ING MACHINES

CAPACITY TABLE

Style	Punch- ing pres- sure in tons	Punching		Shearing						Throat depths (in.)
		Diameter of hole (in.)	Thick- ness of plate (in.)	Plate (in.)	Bars (in.)	Round bars (in.)	Square bars (in.)	Angles		
								Square off (in.)	With shear to blades (in.)	
C.....	50	1 3/4	3/4	1 1/2	5 x 1 1/2	1 1/2	1 1/4	3 x 3 x 3/4	4 x 4 x 3/4	12, 24, 36, 48.
E.....	97 1/2	1 1/4	1	1 1/2	6 x 1	2	1 1/2	4 x 4 x 1/2	6 x 6 x 3/4	12, 15, 24, 36, 48, 54, 60, 72.
G.....	156	2	1	1 1/2	8 x 1	2 1/2	2	6 x 6 x 1/2	8 x 8 x 3/4	12, 24, 36, 48, 60, 72.
V.....	225	2 1/4	1 1/4	1 1/2	8 x 1 1/2	3	2 3/4	6 x 6 x 3/4	8 x 8 x 1/2	12, 24, 36.
W.....	312 1/2	2 1/2	1 1/2	1 1/2	10 x 1 1/2	3 1/2	3	8 x 8 x 3/4	.....	18, 36, 48, 60, 72.
X.....	500	4	1 1/2	2	10 x 2 1/2	5	3 3/2	8 x 8 x 1 1/4	.....	18, 30, 48, 60, 72.
				Coping	Standard punching range		Length of plunger			
IG.....	156	Two 1	1	15" stand- ard beams.	6" to 24" standard sections in flange and web.					24.
L.....	176 1/2	Two 1 1/2	1	6" to 24" standard I beams.	6" to 24" standard sections in flange and web.					24, 36.

SPECIFICATIONS—HORIZONTAL PUNCHING MACHINES

Style	Capacity	Punching pressure in tons	Stroke	Throat depths
T.....	1" x 1"	78 1/2	1 1/2"	10" arch. jaw. 15" plain flat.
AL.....	1 1/4" x 1"	97 1/2	1 3/4"	12", 15" arch. jaw. 12" plain flat.

DESCRIPTION OF MACHINE TOOL

Angle shearing machine:	
No. 3.....	\$6,090
No. 4.....	6,500
Bar shearing machine:	
No. 4.....	4,980
No. 2.....	3,213
No. 6.....	14,823
Plate shear:	
No. 1, 6" gap:	
4-foot.....	6,526
5-foot.....	6,614
6-foot.....	6,750
7-foot.....	6,886
8-foot.....	7,036
24" Gap.....	Add 145

**CLEVELAND PUNCH & SHEAR WORKS COMPANY, CLEVELAND,
OHIO—Continued**

DESCRIPTION OF MACHINE TOOL—Continued

Plate shear—Continued.

No. 2:	
15" gap:	\$8,740
4-foot.....	8,830
5-foot.....	8,920
6-foot.....	9,010
7-foot.....	9,100
8-foot.....	9,300
10-foot.....	Add \$190
24" gap:	
No. 3:	
15" gap:	9,950
4-foot.....	10,200
5-foot.....	10,430
6-foot.....	10,700
7-foot.....	10,900
8-foot.....	11,250
10-foot.....	Add \$203
24" gap:	
No. 4:	
24" gap:	11,700
4-foot.....	11,931
5-foot.....	12,170
6-foot.....	12,600
7-foot.....	12,700
8-foot.....	14,353
10-foot.....	Add \$190
36" gap:	

Plate bending roll:

No. 1:	6,214
6-foot.....	6,315
8-foot.....	6,309
10-foot.....	
No. 2:	4,682
8-foot.....	4,980
10-foot.....	5,222
12-foot.....	5,466
14-foot.....	
No. 2-A:	9,517
8-foot.....	9,773
10-foot.....	10,080
12-foot.....	10,331
14-foot.....	10,557
15-foot.....	
No. 3, with 13" and 9" rolls:	9,790
8-foot.....	10,312
10-foot.....	10,840
12-foot.....	
Air-flanging clamp:	2,621
10-foot.....	

SPECIFICATIONS—ANGLE SHEARS

Style	Capacity	Stroke	Base	Base diam- eter
3.....	6" x 6" x 3/4"	2 3/4"	Stationary or circular.....	7"
4.....	6" x 6" x 1"	2 3/4"	Stationary or circular.....	7"

CLEVELAND PUNCH & SHEAR WORKS COMPANY, CLEVELAND,
OHIO—Continued

SPECIFICATIONS—BAR SHEARS

Style	Capacity	Stroke	Length of blades
2.....	2" round, 1½" square.....	2¼"	13" standard and maximum.
4.....	3" round, 2¼" square.....	3½"	12" standard and maximum.
6.....	5" round, 4½" square.....	6"	36" sectional or one piece maximum.

CLEVELAND INCLINABLE PRESSES

Size of press.....	4-1	4½-1	5-1	6-1	7-1	8-1	8-1- Sp	8-1- A	9-1	10-1	11-1
Shaft:											
Main bearings.....	2	2¼	2½	3	3½	4	4	4	4½	5	5½
Crank pin.....	2¼	2½	3¼	4¼	5¼	6	6	6	6½	7	7½
Price: Not grd., std. stroke. K. O. in slide and plain bol.	\$505	\$605	\$675	\$830	\$1,025	\$1,400	\$1,540	\$1,915	\$1,925	\$2,500	\$2,815
Weight: Plain machine (pounds)	1,100	1,500	2,300	3,600	5,400	8,000	8,500	11,800	13,000	17,000	22,500
Price: Geared, std. stroke. K. O. in slide and plain bolster.				\$1,135	\$1,350	\$1,735	\$1,870	\$2,235	\$2,355	\$2,960	\$3,325
Weight: Geared machine (pounds)				4,100	6,300	9,200	9,700	13,000	14,500	19,000	25,000
Extra: Bolster (plain).....	25	30	35	40	50	65	65	105	85	110	125
Spec. str.: (Not over max.).....	25	30	30	35	40	45	45	85	60	55	65
Flanged slide.....				65	80	95	Incl.	110	115	120	
Tie rods, nuts and washers.....			20	25	30	34	35	35	37	40	45
Geared motor drive, exclusive of motor.....	75	75	80	85	97	110	110	110	120	125	130
V-belt drive (motor) including V-belts and sheave, exclusive of motor.....					115	130	130	130	140	145	150
Increased die space if frame patt. is cut.....	80	85	85	92	97	105	105	115	115	125	140
Boxing for export.....	80	80	80	85	92	97	110	120	120	145	175

¹ Carried in stock with standard specifications. Other sizes built on order.

WALL-TYPE RADIAL DRILLING AND COUNTERSINKING MACHINE

	Lever feed	Handwheel feed	Automatic feed
Type No. 1: 6-foot arm.....	\$1,465	\$1,640	\$1,770
Type No. 3: 6-foot arm.....	1,897	2,072	2,202

Extra per foot for any additional arm length required \$23.

COCHRANE-BLY CO., ROCHESTER, N. Y.

	Weight	Price
	Pounds	
No. 1 bench filing machine, belt drive.....	45	\$75
No. 2 floor type filing machine, belt drive.....	500	325
No. 11 saw sharpening machine, belt drive.....	850	700
No. 11-A saw sharpening machine, belt drive.....	900	775
No. 11-B saw sharpening machine, belt drive.....	1,000	880
No. 55-H hydraulic metal sawing machine with V belt drive, but without saw blades or electrical equipment.....	7,000	4,150
No. 66-H hydraulic metal sawing machine with V belt drive, but without saw blades or electrical equipment.....	9,000	6,150
No. 31 (4" capacity) automatic hydraulic high speed nonferrous metal sawing machine, including V belt drive for blade driving motor, but without blades or electrical equipment.....	7,200	5,875
No. 31 enlarged (7" maximum capacity) automatic hydraulic high speed nonferrous metal sawing machine, including V belt drive for blade driving motor, but without blades or electrical equipment.....	8,500	6,875
No. 14 universal vertical Miller shaper arranged for belt drive and complete with standard equipment.....	2,600	3,700

COLONIAL BROACH COMPANY, DETROIT, MICH.

COLONIAL JUNIOR PRESSES

[Prices f. o. b. Detroit]

Size of machine	Net weight	Shipping weight	Price
	Pounds	Pounds	
VJ1-1000-12.....	300	375	\$455
VJ1-1-12.....	350	425	495

NOTE.—Above prices do not include electrical equipment.

Coolant tank and pump..... Price \$125
Dual safety control..... 40

COLONIAL SENIOR PRESS—VBS MODEL

[Prices f. o. b. Detroit]

Size of machine	Extra price for wiring of electrical equipment	Price	Size of machine	Extra price for wiring of electrical equipment	Price
1-18.....	\$15	\$725	6-36.....	\$20	\$1,450
3-18.....	15	915	10-30.....	20	1,820
3-24.....	15	960	10-42.....	20	1,935
6-24.....	20	1,360			

NOTE.—Above prices do not include electrical equipment.

Coolant pump and piping..... Price \$45

COLONIAL OPENSIDE PRESS—VP1 MODEL

Size of machine	Extra price for wiring of electrical equipment	Price
Vp1-2-18.....	\$15	\$1,400
Vp1-4-18.....	15	1,540

NOTE.—Above prices do not include electrical equipment.

COLONIAL OPENSIDE PRESS—VP1 MODEL

[Prices f. o. b. Detroit]

Size of machine	Price	Extra price for wiring of electrical equipment	Size of machine	Price	Extra price for wiring of electrical equipment
VP1-4-24.....	\$1,705	\$15	VP1-10-36.....	\$2,365	\$20
VP1-6-24.....	1,980	15	VP1-12-36.....	2,585	20
VP1-6-36.....	2,035	15	VP1-15-36.....	2,805	20
VP1-10-24.....	2,200	20			

Coolant pump and piping, \$45.

NOTE.—Above prices do not include electrical equipment.

COLONIAL HORIZONTAL BROACHING MACHINE

[Prices f. o. b. Detroit]

HAS-3-36.....	\$2,135	\$15	HAS-15-90.....	\$5,735	\$25
HAS-6-48.....	3,080	20	HAS-20-60.....	5,180	25
HAS-6-60.....	3,450	20	HAS-20-72.....	5,545	25
HAS-10-48.....	3,450	20	HAS-20-90.....	7,185	25
HAS-10-60.....	3,815	20	HAS-25-60.....	6,120	25
HAS-15-60.....	4,980	20	HAS-25-72.....	6,550	25
HAS-10-90.....	4,200	25	HAS-40-72.....	8,190	25
HAS-15-90.....	4,565	25	HAS-50-72.....	10,850	25

COLONIAL BROACH COMPANY, DETROIT, MICH.—Continued

ADDITIONAL EQUIPMENT

FOLLOW REST

	Price			Price	
	Slide type	Roller type		Slide type	Roller type
36" stroke.....	\$325	\$425	60" stroke.....	\$385	\$485
48" stroke.....	355	455	72" stroke.....	425	525

CHIP TROUGH

60" stroke.....	\$140		90" stroke.....	\$250	
72" stroke.....	175				

NOTE.—Above prices do not include electrical equipment.

COLONIAL PULLDOWN BROACHING MACHINE WITH AUTOMATIC BROACH HANDLING

[Prices f. o. b. Detroit]

Size of machine	Price	Extra price for wiring of electrical equipment	Size of machine	Price	Extra price for wiring of electrical equipment
VMS-3-24.....	\$3,225	\$15	VMS-15-48.....	8,160	25
VMS-6-36.....	4,825	20	VMS-15-60.....	8,815	25
VMS-6-48.....	5,140	20	VMS-20-48.....	9,645	25
VMS-10-36.....	6,300	20	VMS-20-60.....	10,450	25
VMS-10-48.....	6,655	20			

NOTE.—Above prices do not include electrical equipment.

COLONIAL PULLUP BROACHING MACHINES WITH AUTOMATIC BROACH HANDLING

[Prices f. o. b. Detroit]

VDS-6-36.....	\$4,825	\$20	VDS-15-48.....	\$8,160	\$25
VDS-6-48.....	5,140	20	VDS-15-60.....	8,815	25
VDS-10-36.....	6,300	20	VDS-20-48.....	9,645	25
VDS-10-48.....	6,655	20	VDS-20-60.....	10,450	25

NOTE.—Above prices do not include electrical equipment.

COLONIAL SINGLE RAM BROACHING MACHINE WITH RECEDING TABLE

[Prices f. o. b. Detroit]

VAS-3-30.....	\$4,150	\$15	VAS-10-66.....	\$7,445	\$20
VAS-3-48.....	4,535	15	VAS-15-48.....	8,160	25
VAS-5-42.....	4,730	20	VAS-15-66.....	9,150	25
VAS-5-54.....	5,140	20	VAS-25-48.....	10,770	25
VAS-10-42.....	6,530	20	VAS-25-66.....	12,175	25
VAS-10-54.....	6,920	20			

For prices of machines with stationary table deduct as follows:

Machines up to and including 5-ton..... \$560

Machines 10-ton and over..... 665

Above prices do not include electrical equipment.

COLONIAL BROACH COMPANY, DETROIT, MICH.—Continued

COLONIAL DUAL RAM BROACHING MACHINE WITH RECEDING TABLE

[Prices f. o. b. Detroit]

Size of machine	Price	Extra price for wiring of electrical equipment	Size of machine	Price	Extra price for wiring of electrical equipment
VAD-3-30.....	\$6,225	\$15	VAD-10-66.....	\$11,170	\$20
VAD-3-48.....	6,790	15	VAD-15-48.....	12,240	25
VAD-5-42.....	7,100	20	VAD-15-66.....	13,720	25
VAD-5-54.....	7,720	20	VAD-25-48.....	16,160	25
VAD-10-42.....	9,785	20	VAD-25-66.....	18,255	25
VAD-10-54.....	10,375	20			

For prices of machines with stationary table deduct as follows:

For Machines up to and including 5 ton..... each..... \$340

For Machines 10 ton and over..... do..... 995

Above prices do not include electrical equipment.

CONE AUTOMATIC MACHINE COMPANY, INC., WINDSOR, VT.

Machine	Weight	Price	Machine	Weight	Price
	Pounds			Pounds	
1/4" 4-spindle Conomatic.....	8,000	\$7,290	1 3/4" 6-spindle Conomatic.....	24,000	\$13,200
1 1/4" 4-spindle Conomatic.....	11,500	7,835	2 1/4" 6-spindle Conomatic.....	28,000	14,400
1 3/4" 4-spindle Conomatic.....	11,500	8,365	2 3/4" 6-spindle Conomatic.....	36,000	18,650
2" 4-spindle Conomatic.....	16,000	9,650	3 1/4" 6-spindle Conomatic.....	16,000	10,900
2 1/4" 4-spindle Conomatic.....	18,000	11,200	1 1/2" 8-spindle Conomatic.....	16,000	11,200
2 3/4" 4-spindle Conomatic.....	18,000	12,000	1 3/4" 8-spindle Conomatic.....	16,000	11,200
3 1/4" 4-spindle Conomatic.....	18,000	11,200	1 1/2" 8-spindle Conomatic.....	16,000	11,200
3 3/4" 4-spindle Conomatic.....	18,000	12,000	1 3/4" 8-spindle Conomatic.....	16,000	11,200
4 1/4" 4-spindle Cone Automatic.....	26,000	13,600	1 1/2" 8-spindle Cone Automatic.....	10,000	7,000
4 3/4" 4-spindle Cone Automatic.....	26,000	14,300	1 3/4" 8-spindle Cone Automatic.....	10,000	7,000
5 1/4" 4-spindle Cone Automatic.....	38,000	20,000	1 1/2" 4-spindle Cone Vertical.....	10,000	7,500
5 3/4" 4-spindle Cone Automatic.....	39,000	22,500	1 3/4" 4-spindle Cone Vertical.....	18,000	10,000
6 1/4" 4-spindle Cone Automatic.....	20,000	10,175			
6 3/4" 4-spindle Cone Automatic.....	20,000	11,750			
7 1/4" 4-spindle Cone Automatic.....	20,000	11,750			
7 3/4" 4-spindle Cone Automatic.....	20,000	11,750			
8 1/4" 4-spindle Cone Automatic.....	20,000	11,750			
8 3/4" 4-spindle Cone Automatic.....	20,000	11,750			

CONSOLIDATED MACHINE TOOL CORPORATION, ROCHESTER, N. Y.

BETTS-BRIDGEFORD GEARED HEAD LATHES

Base sizes	Base price	Extra price 2' of bed	Base sizes	Base price	Extra price 2' of bed
26" x 10'.....	\$7,040	\$250	42" x 13'.....	\$13,390	\$460
30" x 10'.....	7,505	265	42" extra heavy x 14'.....	14,570	510
32" x 12'.....	10,915	385	48" x 14'.....	15,135	530
36" x 12'.....	11,475	395	54" x 14'.....	16,200	540
38" x 13'.....	12,625	450			

COLBURN HEAVY DUTY BORING MILLS

[2 swivel heads, constant speed, motor drive]

Base sizes	Base price	Base sizes	Base price
42".....	\$11,385	62".....	\$15,345
48".....	12,375	72".....	17,765
54".....	13,035	84".....	22,825

**CONSOLIDATED MACHINE TOOL CORPORATION, ROCHESTER, N. Y.—
Continued**

COLBURN DRILL PRESSES

Base size	Base price	Base size	Base price
D-4 24" swing 3 1/4" capacity.....	\$3,035	No. 2 20" swing 1 1/4" capacity.....	\$1,065
D-6 36" swing 3 1/4" capacity.....	3,445	No. 4 24" swing 2" capacity.....	1,755
D-7 48" swing 3 1/4" capacity.....	3,850	No. 6 28" swing 3" capacity.....	2,440
D-8 36" swing 5" capacity.....	4,425	No. 14 24" swing 2" capacity.....	2,010

NEWTON COLD SAWS

32".....	\$6,140	42".....	\$7,035
36".....	6,430	48".....	9,075

CONTINENTAL MACHINES, MINNEAPOLIS, MINN.

	Model V16	Model ML	Model V36	Model V26	Model FM	Model FC
Standard machine.....	\$965	\$1,250	\$1,850	\$1,925	\$270	\$380
Super butt welder extra.....	85	85	85	85		
Hydraulic power feed.....	140	225	225	140		
Cutting off.....	30	30	35	35		
Disc cutting.....	25	25	35	35		
Band polishing.....	15	15	20	20		
Power feed attachment.....	75	(1)	(1)	(1)		

¹ Standards.

THE JAMES COULTER MACHINE COMPANY, BRIDGEPORT, CONN.

Type "H" Coultter Hob thread milling machine ¹	\$4,000
Type "C" Coultter cartridge case trimmer.....	4,500
Model T-3" Coultter cartridge case finishing machine.....	8,575
Model T-5" Coultter cartridge case finishing machine.....	8,975
Model T-6" Coultter cartridge case finishing machine.....	10,350

¹ Price for this machine does not include complete tooling; it represents standard base price of the machine. The other prices are for machines completely toolled.

COVEL MANUFACTURING COMPANY, BENTON HARBOR, MICH.

UNIVERSAL CUTTER AND TOOL GRINDERS—NO. 91-A MACHINE, MOTOR DRIVE

No. 91-A—Universal cutter and tool grinder. Plain, hand feed with roller bearing type table with motor drive to wheel head, including 1/4 hp., 1,750 r. p. m. motor with standard electric current specifications as listed below, with switch and wiring, with equipment as listed in attachment list "A".....	\$1,440
Extra for power feed, including 1/4 hp., 1,750 r. p. m. motor.....	250
Extra for equipment as listed in attachment list "B" (for details see next page).....	342

MOTOR EQUIPMENT FOR NO. 91-A MACHINE

The following motors will be furnished as standard equipment:

Single phase 50 or 60 cycle, 110 volt. Three phase 50 or 60 cycle, 220 volt and 440 volt. An extra charge of \$20 for a 1/4 hp., 1,750 r. p. m. or \$12.50 for a 1/4 hp., 1,750 r. p. m. motor will be made for another electric current.

COVEL MANUFACTURING COMPANY, BENTON HARBOR, MICH.—Con.

ATTACHMENT LIST "A"

(Attachments for No. 91-A Universal cutter and tool grinder)

No. 1—L. H. tailstock with center.....	\$24
No. 2—R. H. tailstock with center.....	18
No. 4—Universal face mill attachment for grinding cutter with either a B & S taper or National No. 50 taper (3 1/4" per foot) with reducing collets from No. 12 to No. 10, No. 9 and No. 7 B & S taper hole.....	90
(Can be furnished with a 1/4 hp. motor to convert into a motor drive headstock, including bracket to mount motor, large pulley to fasten to spindle with belt and guard, including motor. Not included in price of complete machines with attachment list "A".)	

ATTACHMENT LIST "B"

(Attachments for 91-A Universal cutter and tool grinder)

Attachments to convert the Universal face mill attachment into a motor drive headstock, including 1/4 hp. motor, 1,750 r. p. m., switch bracket, and pulley (for motor drive only).....	70
Spindle extension for surface grinding, 2 furnished and \$11 each with 1 single end wrench with 1 1/4" opening.....	22
4" 3-jaw Universal chuck with mounting, including inside and outside jaws or 4-jaw independent.....	70
Gear cutter grinding attachment, complete.....	50
Tilting swivel vise for surface grinding.....	65
Internal grinding attachment, complete with pulley, belt, extension spindle and 2 grinding wheels.....	65

SPECIAL ATTACHMENTS

[Not included in machine prices]

(For No. 91-A Universal cutter and tool grinder)

Steady rest, complete, capacity 2".....	30
Face grinding attachment, including face plate and a 1" dia. expansion collet (other sizes from 1/8" to 1 1/4" can be furnished at \$5 each) mounted on No. 9 B & S taper shank.....	25
Radius dresser for grinding wheel, including diamond.....	42
Standard radius grinding attachment (without diamond).....	225
Small end mill grinding attachment.....	40
Three-speed motor drive headstock with 1/4 hp. motor.....	250
Draw-in collet attachment (for 3-speed headstock or universal face mill grinding attachment) with 1 collet (capacity 3/8") not illustrated.....	75
Extra collets, each.....	7
Large face mill grinding attachment (without lip rest).....	190
Surface grinding attachment.....	110
Set of 6 index centers 10 1/4" dia. capacity with 1 index plate.....	90
Rotary table without motor.....	180
Arranged to take large dia. grinding wheel (10" dia. x 1/2" face).....	30
Standard universal attachment.....	100
No. 2 tap grinding attachment (with chuck for small taps).....	185
Large radius grinding attachment.....	240
Lower main part (net wgt. 125 lbs.).....	
Upper part (same as No. 4 Uni. Face Mill Attachment).....	90
Net weight 26 lbs.....	25
Universal Angle Vise, Style A.....	95
Horizontal Universal Vise, Style D.....	
Net grinding attachment including splash guard for table tank with pump and vertical 1/4 hp., 1750 r. p. m. motor complete. Net weight 200 pounds.....	230
Cabinet to take all standard attachments.....	35

COVEL MANUFACTURING COMPANY, BENTON HARBOR, MICH.—Con.

YANKEE TWIST DRILL GRINDERS

Style WPL. Wet and dry double end combination drill grinder, one end wet with holder for holding drills $\frac{1}{8}$ " to $2\frac{1}{2}$ ", and one end dry for holding drills No. 30 to $\frac{3}{8}$ ".	
Motor drive, including motor, AC.....	\$565
Motor drive, including motor, DC.....	640
Style WFJ. Wet and dry double end combination drill grinder, one end wet with holder for holding drills $\frac{1}{8}$ " to 4 ", and one end dry for holding drills $\frac{3}{8}$ " to $1\frac{1}{2}$ ".	
Motor drive, including motor, AC.....	640
Motor drive, including motor, DC.....	715
Style WFL. Wet and dry double end combination drill grinder, one end wet with holder for holding drills $\frac{1}{8}$ " to 4 ", and one end dry for holding drills No. 30 to $\frac{3}{8}$ ".	
Motor drive, including motor, AC.....	625
Motor drive, including motor, DC.....	700
Style PO. PT. Single end, wet, drill grinder with point thinning grinding wheel. Drill capacity $\frac{1}{8}$ " to $2\frac{1}{2}$ ".	
Motor drive, including motor, AC.....	525
Motor drive, including motor, DC.....	600
Style PO. PT. Single end, wet, drill grinder with point thinning grinding wheel. Drill capacity $\frac{1}{8}$ " to 4 ".	
Motor drive, including motor, AC.....	575
Motor drive, including motor, DC.....	650
Style JPO. PT. Single end, wet, drill grinder with point thinning grinding wheel. Drill capacity $\frac{3}{8}$ " to $1\frac{1}{2}$ ".	
Motor drive, including motor, AC.....	520
Motor drive, including motor, DC.....	595
Style JB. PT. Single end, dry, drill grinder, with point thinning grinding wheel. Drill capacity $\frac{3}{8}$ " to $1\frac{1}{2}$ ".	
Motor drive, including motor, AC.....	445
Motor drive, including motor, DC.....	620
Style B. PT. Single end, dry, drill grinder, with point thinning grinding wheel (both grinding wheels $9\frac{1}{2}$ " diameter). Drill capacity $\frac{1}{8}$ " to $2\frac{1}{2}$ ".	
Motor drive, including motor, AC.....	470
Motor drive, including motor, DC.....	545
Style F. PT. A. Single end, dry, drill grinder with point thinning grinding wheel, both grinding wheels 12 " diameter. Drill capacity $\frac{1}{8}$ " to $2\frac{1}{2}$ ".	
Motor drive, including motor, AC.....	480
Motor drive, including motor, DC.....	555
Style F. PT. Single end, dry, drill grinder with point thinning grinding wheel. Drill capacity $\frac{1}{8}$ " to 4 ".	
Motor drive, including motor, AC.....	540
Motor drive, including motor, DC.....	615
Style No. 44 Bench type, single end, dry drill grinder with point thinning grinding wheel. Capacity of drills when furnished with "J" holder $\frac{3}{8}$ " to $1\frac{1}{2}$ ". Capacity of drills when furnished with "L" holder No. 30 to $\frac{3}{8}$ ".	
Price including $\frac{1}{2}$ hp. motor and "V" belt drive.....	225
Pedestal for mounting machine, extra.....	25
Dual drill grinding attachment, arranged for two lip drills, including one drill holder, net wgt 80 lbs.....	250

SURFACE GRINDERS

No. 5—8 x 24 Hydraulic feed surface grinder. Hydraulic feed to table. (Capacity 8 x 24 x 11 under a 12 " grinding wheel. Dust guards on vertical slide may be removed to increase vertical capacity 2 ".) Pump for hydraulic mechanism direct driven thru flexible coupling with a 2 hp., 1150 r. p. m. motor mounted on a bedplate in base of machine. Dry. Furnished with wrenches and one grinding wheel 12 " diameter x $\frac{3}{4}$ " face. Price includes electric motors and controls. Furnished with a 2 hp. direct built-in motor (60 cycle AC electric current only) to drive spindle at 1750 r. p. m.....	2,245
---	-------

COVEL MANUFACTURING COMPANY, BENTON HARBOR, MICH.—Con.

SURFACE GRINDERS—continued

No. 20—6 x 18 Hydraulic feed surface grinder, without electrical equipment, dry with necessary belt, wrenches and one grinding wheel.....	\$1,445
Electrical equipment recommended: One $1\frac{1}{2}$ hp., 1750 or 1425 r. p. m. B. B. motor for spindle. One 1 hp., 1150 or 1425 r. p. m., totally enclosed B. B. motor for hydraulic pump. Two magnetic starters with push button stations.	
No. 20V—6 x 18 Vertical spindle hydraulic feed surface grinder with a 3 hp., 3,500 r. p. m. direct connected vertical motor and control without automatic cross feed (hand cross feed only), without motor to drive hydraulic pump, dry with necessary wrenches and one grinding wheel. Furnished for 60 cycle AC electric current only.....	1,795
Electrical equipment recommended: One 1 hp., 1,150 r. p. m. totally enclosed B. B. motor for hydraulic pump. One magnetic starter with push button station.	
No. 20H—6 x 18 Hand feed surface grinder without electrical equipment; with necessary belt, wrenches, and one grinding wheel.....	1,175
Electrical equipment recommended: One $1\frac{1}{2}$ hp., 1,750 or 1,425 r. p. m. B. B. motor for spindle. One magnetic starter with push button station.	
Mounting Charges for No. 5 and 20 If customer furnishes motor and control for mounting and wiring by us, there will be a charge of..... Mounting charge for magnetic chuck..... No charge for mounting and wiring if we furnish magnetic chuck.	20 15
Attachments for No. 5 and 20 Surface Grinders Built-in wheel truing device, including diamond..... Wet attachment, including $\frac{1}{2}$ hp., 1,750 or 1,425 r. p. m. vertical motor, pump, coolant tank, splash guards, etc..... High speed attachment..... Dust exhaust attachment, furnished motor drive only including 1 hp., 1,750 or 1,425 r. p. m. motor..... Magnetic chuck—Price on application. DC generator—Price on application. DC rectifier—Price on application.	175 150 183
No. 15—6 x 18 Hand feed surface grinder. Dry, motor drive to spindle by V-belt, 3 speeds. Includes belt, and a 10 x $\frac{3}{4}$ " face grinding wheel, but without motor or switch ($1\frac{1}{2}$ hp., 1,750 r. p. m. motor recommended)..... Special flush type electric switch mounted in column.....	565 12
No. 72 Hand feed surface grinder. Dry, capacity 6 " x 18 ", motor drive arranged to drive spindle at two different speeds (1,900 and 2,600 r. p. m.) including belt, and a 10 x $\frac{3}{4}$ " face grinding wheel, but without motor or switch. A $1\frac{1}{2}$ hp., 1,750 r. p. m. motor is recommended.....	535
No. 72A Hand feed surface grinder with head that swivels 30 degrees to right or left. Capacity 6 " x 18 " x $12\frac{1}{2}$ " high under a 10 " diameter wheel, arranged for motor drive to spindle by V-belt, 3 speeds—1,900, 2,400 and 2,900 r. p. m. Includes belt, and a 10 x $\frac{3}{4}$ " face grinding wheel, but without motor or switch (a $1\frac{1}{2}$ hp., 1,750 r. p. m. motor is recommended).....	695
ATTACHMENTS FOR NO. 15, NO. 72 AND 72A SURFACE GRINDERS Built-in wheel truing device, including diamond..... Wet attachment, including $\frac{1}{2}$ hp., 1,750 or 1,425 r. p. m. vertical motor, pump, coolant tank, splash guards and pipe. Net weight 200 lbs..... Swivel table complete (not furnished with wet attachment)..... Dust Exhaust Attachment, furnished complete with collector fan, 1 hp., 1,750 or 1,425 r. p. m. motor and piping. Net weight 310 pounds.....	\$65 150 90 181

THE COX AND SONS COMPANY, BRIDGETON, N. J.

PIPE MACHINES

Type machine	2E	4E	4F	6F	8F	12D	12F	18D
Capacity pipe size.....inches	¼ to 2	¼ to 4	¼ to 4	1 to 6	2½ to 8	4 to 12	4 to 12	8 to 18
Machine with "full range" die belt drive, including countershaft or motor drive (w/o motor).....		\$2,350	\$2,500	\$2,950	\$3,400	\$4,875	\$5,700	
Ditto with "standard" exp. dies.....	\$1,175	\$2,075	\$2,190	\$2,520	\$2,900	\$4,475	\$5,125	\$6,270
Ditto with "interchangeable" exp. dies.....	\$1,085	\$2,115	\$2,230	\$2,500	\$3,080	\$4,450	\$5,100	\$6,185
Size motor—hp.....	2	5	5	5	7½	10	10	15
Speed motor—r. p. m.....	1,750	1,750	1,750	1,750	1,750	1,200	1,750	1,200
Approx. net weight belt drive with "standard" exp. dies.....pounds	2,850	5,435	5,485	6,000	8,025	12,250	12,887	14,500
Approx. net weight motor drive with motor and "standard" exp. dies.....pounds	2,715	5,335	5,385	5,900	7,925	11,780	12,509	14,262
Net price packing for export.....	\$35	\$55	\$55	\$60	\$70	\$115	\$115	\$150

NOTE.—Prices include oil pump, reaming attachment, die equipment, countershaft or installation of motor equipment (motor and starter not included). Machines 2" to 8" inclusive are equipped with universal front gripping chuck, 12" x 18" with independent 3-jaw. Back steady chucks: 2" universal, 4" 3-jaw independent, 6", 8", 12", 18" 3-jaw independent gripping for pipe and flanges. Die heads are equipped for United States or British (Whitworth) standard threads. A. F. I. casing or drill pipe threads can be furnished for extra price.

THREADING DIES

	2"	4"	6"	8"	12"
"Full range" die pipe sizes.....	½ to 2"	½ to 4"	1 to 6"	2½ to 8"	3½ to 12"
Price with chasers.....	\$445	\$740	\$825	\$1,014	\$1,440
Price per set extra chasers.....	\$14	\$57	\$77	\$96	\$134

	1"	2"	4"	6"	8"	10"	12"
"Standard" exp. die pipe sizes.....	¼ x ¾ (in.) ¾-¾-1.	1¼ x 1½ 2"-2½	2½-3. 3½-4	4½-5-6.	7-8	9-10.	12...
Price without chasers.....	\$45	\$60	\$99	\$105	\$111	\$136	\$175
"Interchangeable" exp. die pipe sizes.....	No. 1, ¼ to 2"	No. 2, 2½ to 4"	No. 3, 2½ to 6"	No. 4, 2½ to 8"	No. 5, 7 to 12"		
Price without chasers.....	\$120	\$210	\$310	\$445	\$510		

NOTE.—For delivery f. o. b. New York add 60¢ per cwt. For delivery f. a. s. New York add 34¢ per cwt. (minimum charge \$3.32) plus 55¢ per ton, pieces 6,000 pounds and over. Prices for motors and control are net installed and subject to change without notice in accordance with manufacturer's current prices.

TUBE CUTTING OFF MACHINES

	2"	4"	6"
Type machine:			
Tube sizes.....	¾" to 2"	1½" to 4"	2" to 6"
Bore spindle.....	3"	5"	6½"
Belt drive with countershaft, or constant speed motor drive (motor not included).....	\$2,400	\$3,025	\$3,350
Variable speed motor drive (motor not included).....	\$2,000	\$2,350	\$2,675
Size motor—h. p.....	7½	10	15
Speed motor—r. p. m.....	1,200	1,750	1,750
Variable speed D. C. motor—r. p. m.....	450/1,800	400/1,600	400/1,600
Approx. net weight including variable speed motor (pounds).....	3,585	5,085	7,225
Net price packing for export.....	\$35	\$55	\$60

NOTE.—Machines equipped with two cutter knives, tube bushings and length gauge. Cutting head: 2" machine (double tool mill type). 4" and 6" machines (Universal Double Tool). Variable speed motor drive, motor mounted on extended leg at rear of machine.

CHASER GRINDERS

Approximate net weight.....pounds	475
Approximate shipping weight.....do	770
Approximate contents (motor drive).....cubic feet	21
Approximate contents (belt drive).....do	33
Prices:	
Belt drive with countershaft.....	\$255
Motor drive without motor.....	\$280

NOTE.—For delivery f. o. b. New York add \$0.60 per cwt. For delivery f. a. s. New York add \$0.03¢ per cwt. (minimum charge \$3.32) plus \$0.55 per ton, pieces 6,000 pounds and over.

CROSS GEAR & MACHINE CO., DETROIT, MICH.

No. 12 Cross MillLathe.....	\$15,300
No. 20 Cross universal precision milling machine ¹	1,500
No. 36 Cross gear tooth pointer.....	3,750
No. 40 Cross gear tooth pointing machine.....	3,250
No. 41 Cross gear tooth pointing machine.....	5,250
No. 50 Cross gear tooth chamfering machine.....	3,850
No. 60 Cross gear tooth pointing machine.....	3,700
No. 62 Cross gear tooth pointing machine.....	5,800
No. 70 Cross gear tooth burring machine.....	2,750
No. 71 Cross gear tooth burring machine.....	2,800
No. 73 Cross gear tooth burring machine.....	3,350
No. 74 Cross gear tooth burring machine.....	3,850

¹ Price correction advised by manufacturer. Price differs from that shown in 1st edition of "New Machine Tools."

THE CURTIS & CURTIS COMPANY, BRIDGEPORT, CONN.

PIPE CUTTING AND THREADING

MOTOR DRIVEN

Machine number.....	430	437	442	258	265	269	269-B
Capacity (inches) R. H.....	¼-2 in.	½-3 in.	1-4 in.	1-6 in.	1-8 in.	2½-12 in.	8-16 in.
Prices for motor specifications:							
60 cycles—2- or 3-phase.....	\$725	\$880	\$975	\$1,585	\$2,420	\$4,000	\$5,200
60 cycles—single-phase.....	\$760	\$930	\$1,025	\$1,685	\$2,520	\$4,200	\$5,500
Direct current.....	\$960	\$1,075	\$1,170	\$1,720	\$2,705	\$4,300	\$5,570
No motor or electrical equipment.....	\$640	\$780	\$875	\$1,470	\$2,305	\$3,870	\$5,070
Specifications: Net weight (pounds).....	425	487	680	1,435	2,400	4,025	6,000
Motor:							
Horse power (hp.).....	1	2	2	3	3	5	7½
Speed (r. p. m.).....	1,800	1,800	1,800	1,800	1,800	1,800	1,800

Regular equipment for direct connected electric machines, includes commercial motor and switch, complete set of dies for range of machine, cut-off attachment and high-speed steel cutting-off tools, automatic die release, automatic oiling system, pipe rest, wrenches and cutting oil. Specifications on machines for left-hand operation, and machines equipped with motors of special types and voltages and reversing electric controls quoted on application.

BELT-DRIVEN MACHINES

Machine number.....	70	77	84	96	98-A	108	120
Capacity (inches) R. H.....	¼-2 in.	½-3 in.	1-4 in.	1-6 in.	1-8 in.	2½-12 in.	8-16 in.
Price complete with C. S.....	\$370	\$440	\$535	\$835	\$1,785	\$3,000	\$4,500
Floor base and high pipe rest.....	\$100	\$100	\$100	\$100	(1)	3,750	(1)
Weight (pounds).....	392	428	694	1,295	2,350		5,150

¹ Standard equipment.

D. & M. MACHINE WORKS, TORRANCE, CALIF.

PRICES AND SPECIFICATIONS

Size of swing (inches)	Distance between centers	Length of bed	Net weight	Price arranged for motor drive
	Inches	Feet	Pounds	
12.....	27	5	1,650	\$1,589.50
14.....	37	6	1,750	2,046.00
16.....	51	8	3,000	2,612.50

THE DAUBER COMPANY, OSHKOSH, WIS.

3', high speed sensitive radial drill press.....	\$1,340
4', high speed sensitive radial drill press.....	1,402

DAVENPORT MACHINE TOOL CO., ROCHESTER, N. Y.

BASE PRICES ON DAVENPORT MACHINES

Model B, five spindle, Automatic Screw Machine, plain type; capacity— 1/4" round, 1/2" hexagon, 3/4" square.....	\$5,275
Model B, five spindle, Automatic Screw Machine, oversize, plain type; capacity, 3/4" round, 1/2" hexagon, 3/4" square.....	5,475
(In the above cases, motor drive and all attachments are extra)	
Automatic Clock Pinion Turning Machine, belt drive; capacity, from 0.075" to 3/8".....	3,250

DAVIS & THOMPSON CO., MILWAUKEE, WIS.

MILLING MACHINES

No. 1-A:	Price ¹
Miller arranged for motor drive without fixtures or clamping.....	\$6,410
Chain clamping (2 chains).....	610
Chain clamping (3 chains).....	910
Fixture approximately (plain V-block).....	610
Toggle lever fixtures—for chain clamping.....	850-2,450
Motors: 7 to 10 H. P., 1,200 R. P. M.	
Weight: Approximately 8,000 lb.	
No. 1-A:	
Miller with heavy heads, arranged for motor drive.....	7,620
Chain clamping.....	610
Chain clamping.....	910
Fixture, approximately (plain V-block).....	850-2,450
Motors: 10 to 15 H. P., 1,200 R. P. M.	
Weight: Approximately 10,000 lb.	
No. 1-B: Miller, streamliner.....	8,250
No. 2:	
Miller without fixtures.....	10,175
Chain clamping.....	715
Fixture, approximately.....	715-960
Motors: 12 to 20 H. P., 1,200 R. P. M.	
Weight: Approximately 20,000 lb.	
No. 2-A:	
Miller without fixtures, 2 heads.....	13,200
Miller without fixtures, 3 heads, 2 spindles in center head.....	15,800
Miller without fixtures, 3 heads, 4 spindles in center head.....	17,100
No. 2-B:	
Miller without fixtures and clamping.....	12,100
Chain clamping (2 chains).....	715
Fixture, approximately.....	960-1,820
Motors: 25 H. P., 1,200 R. P. M.	
Weight: Approximately 22,000 lb.	
No. 3:	
Miller, single end, including fixture.....	10,800
Miller, double end, including fixture.....	13,000
Motors: 25 to 30 H. P., 1,200 R. P. M.	
Weight:	
Single end: Approximately 20,000 lb.	
Double end: Approximately 28,000 lb.	
No. 4: Miller without fixtures.....	17,600
4 spindle rise and fall milling machines, without fixtures.....	10,825
Davis axle miller with fly wheels.....	10,650

DAVIS & THOMPSON CO., MILWAUKEE, WIS.—Continued

DRILLING MACHINES

Price¹

12 spindle continuous vertical rotary, without fixture, and pump, arranged for motor drive.....	\$13,420
Motors: 20 to 30 H. P., 1,200 R. P. M. (without pump).	
Weight: Approximately 21,000 lb.	
8 spindle continuous vertical rotary, without fixture, and pump, arranged for motor drive.....	9,570
Motor: 10 H. P., 1,200 R. P. M.	
Weight: Approximately 12,000 lb.	
SV-8: 8 spindle continuous vertical rotary, without fixture, and arranged for motor drive.....	5,860
Motor: 7 1/2 H. P., 1,800 R. P. M.	
Weight: Approximately 6,500 lb.	
Piston driller, double end drive, without fixtures.....	10,200
Fixtures per station.....	215
12 spindle horizontal driller, with compound tank in base without fixtures or automatic clamping.....	14,200

¹ Prices corrected upon advice of manufacturer, differ from those shown in first edition "Prices of New Machine Tools".

DAVIS KEYSEATER COMPANY, ROCHESTER, N. Y.

NEW STYLE MACHINES WITH TILTING TABLE

	Code	Price
No. 3 machine belt drive, capacity keyways 1/4" to 1/2" in width, with regular table equipment.....	Actor.....	\$430
Arranged for motor drive including motor base plate but without motor or electrical equipment.....	Actress.....	496
No. 4 machine belt drive, capacity keyways 1/4" to 1" wide, with regular table equipment.....	Accurate.....	520
Arranged for motor drive including motor base plate but without motor or electrical equipment.....	Accost.....	576
No. 5 machine belt drive, capacity keyways 1/4" to 1 1/4" in width, with regular table equipment.....	Adapt.....	738
Arranged for motor drive including motor base plate but without motor or electrical equipment.....	Addict.....	810

OLD STYLE MACHINES WITH FIXED TABLE

No. 1 machine belt drive, capacity keyways 1/4" to 1" in width, with regular table equipment.....	Acquaint.....	\$396
Arranged for motor drive including motor base plate but without motor or electrical equipment.....	Macquaint.....	462
No. 2 machine belt drive, capacity keyways 1/4" to 1/2" wide, with regular table equipment.....	Acquit.....	300
Arranged for motor drive including motor base plate but without motor or elec- trical equipment.....	Macquit.....	366
We can furnish motor if desired, in which case we will make no charge for mounting.		
Belt-driven machines do not require countershaft.		

DAVIS KEYSEATER COMPANY, ROCHESTER, N. Y.—Continued

CUTTERS

Size (width of keyway) (inches)	Standard—		Carbon steel	High speed steel	Code
	Length (inches)	Width (inches)			
1/16" 1	16	3/8	\$10.00	\$11.00	Tab.
1/16" 2	16	3/8	9.50	10.75	Table.
1/8" 1	16	7/16	8.00	10.00	Tablet.
1/8" 2	16	7/16	8.00	9.50	Tab.
3/16" 1	16	3/4	5.25	9.00	Tar.
3/16" 2	16	3/4	5.40	9.25	Tail.
1/4" 1	16	3/4	5.50	9.00	Taint.
1/4" 2	16	3/4	5.75	9.50	Take.
5/16" 1	16	3/4	6.00	10.00	Talk.
5/16" 2	16	3/4	6.15	10.50	Tame.
3/8" 1	20	1	7.00	12.10	Tamp.
3/8" 2	20	1	7.50	12.60	Tan.
1/2" 1	20	1	7.95	13.20	Tank.
1/2" 2	20	1	8.50	13.70	Tap.
3/4" 1	20	1	8.75	14.30	Tar.
3/4" 2	20	1	9.50	14.85	Tare.
7/8" 1	20	1	9.75	15.40	Tart.
7/8" 2	20	1	10.50	15.90	Task.
1" 1	20	1	10.75	16.50	Taste.

¹ Reinforced back 3/8" thick. Can furnish special cutters to order. Cutters in intermediate sizes not listed, and cutters for more than 1" width of keyway will be quoted upon request.

BUSHINGS

Size	Diameter	Height	Code	Price
No. 1	1/4 to 2 in. as ordered	2 in.		\$7.80
No. 2	2 1/4 to 3 in. as ordered	3 1/2 in.		10.20
No. 3	3 1/4 to 4 in. as ordered	4 1/2 in.		14.40
No. 4	4 1/4 to 5 in. as ordered	5 1/2 in.		18.60

BUSHINGS HOLDERS

Size	Takes Bushings	Code	Price
No. 1	1/2 in. to 2 in. diam.		\$8.40
No. 2	2 1/4 in. to 3 in. diam.		9.60
No. 3	3 1/4 in. to 4 in. diam.		10.80
No. 4	4 1/4 in. to 5 in. diam.		12.00

Only one holder required for each group of bushings.
Prices of swinging clamp bars when ordered as extras with machines. For No. 3 \$18.00. For No. 4, \$24.00. For No. 5, \$30.00. Long clamp bar for No. 1 machine \$36.00.

DEFIANCE MACHINE WORK, INC., DEFIANCE, OHIO

HORIZONTAL BORING MACHINES

Older Model No. 5 with 3" bar	\$9,130
Older Model No. 5A with 3 1/4" bar	12,000
Older Model No. 6 with 4 1/4" bar	15,000

NEW MODELS

No. 25-A with 3 1/4" bar and 5' bed, 30" x 60" table, 30" vertical movement; weight, 25,350 pounds	13,395
No. 26 with 4 1/4" bar and 7' bed, 36" x 64" table, 36" vertical movement; weight 40,300 pounds	18,775

DEFIANCE MACHINE WORK, INC., DEFIANCE, OHIO—Continued

EXTRAS FOR ABOVE NEW MODELS

	No. 25-A	No. 26
Bed, 6'	\$200	\$300
Bed, 8'	600	900
Bed, 10'	240	
Vertical movement of head, 36"	480	
Vertical movement of head, 42"		720
Vertical movement of head, 48"	1,000	
Vertical movement of head, 50"		1,440
Vertical movement of head, 60"	225	
Table with suitable saddle, 30" x 64"	285	
Table with suitable saddle, 42" x 64"	300	300
Table with suitable saddle, 36" x 75"	330	330
Table with suitable saddle, 42" x 75"		1,000
Table with suitable saddle, 48" x 84"		

DRILLING MACHINES

Defiance No. 112-21" Production Drilling Machine	\$1,524
[Standard equipment consists of, T slot table with jack screw underneath, hardened steel wear strips for head slide and 12" head travel, change gears for 16 speeds and feeds, single pulley drive.]	
Defiance No. 200-26" Heavy Duty Production Drilling Machine	1,964
[Standard equipment consists of T slot table with jack screw underneath, hardened steel wear strips for head slide and 12" head travel, change gears for 12 speeds and 16 feeds, single pulley drive.]	

DELDE MACHINE WORKS, MELROSE PARK., ILL.

O. B. I. PRESSES, BENCH-TYPE

Model No.	Cap.	Standard stroke of slide	Depth of throat from centre of slide	Weight of flywheel	Weight complete	Price
	Tons	Inches	Inches			
00.	1 1/4	1 1/2	2 1/4	25	125	\$100
0 steel	2 1/4	1	2 1/4	50	190	130
0 cast iron	2 1/4	1	2 1/4	50	190	125
1.	5	1 1/4	4	100	400	175
1B.	7 1/2	1 1/4	6 1/4	150	650	190
1A.						255

Tables and legs for mounting above presses can be furnished if desired.
Specifications of floor type presses furnished on request.

A. P. DE SANNO & SON, INC., PHOENIXVILLE, PA.

RADIAC CUT-OFF MACHINE

TYPE K—BOTH WET AND DRY CUTTING

Cut-off discs: For wet cutting, Rubber Bond, 16 inches in diameter and 1/16" to 1/8" thick. For dry cutting, Resinoid Bond, 14 inches in diameter, 1/16" and 1/8" thick.

The price of the machine complete is as follows:	\$1,153
For 60 cycles, 2 or 3 phase, 220, 440, 550 volts	1,168
For 50 cycles, 2 or 3 phase, 220, 440, 550 volts	1,437
For direct current, 115 or 230 volts	

The price of the machine without the 7 1/2 h. p. motor, magnetic switch, push-button station and drum speed changer, but with motor pulley and 7 V belt and also with the 1/4 h. p. pump motor is as follows:

For 60 cycles, 2 or 3 phase, 220, 440, 550 volts	940
For 50 cycles, 2 or 3 phase, 220, 440, 550 volts	947
For direct current, 115 or 230 volts	945
Price of standard straight or swivel vise when purchased as extra equipment	90
Charge for installing electrical equipment furnished by customer	20

A. P. DE SANNO & SON, INC., PHOENIXVILLE, PA.—Continued

TYPE J—WET CUTTING

Cut-off discs, 16 inches in diameter and $\frac{1}{16}$ to $\frac{1}{8}$ inch thick. Selected for customer's particular requirements.

The price of the machine complete is as follows:

For 60 cycles, 2 or 3 phase, 220, 440, 550 volts.....	\$1,070
For 50 cycles, 2 or 3 phase, 220, 440, 550 volts.....	1,082
For 25 cycles, 2 or 3 phase, 220, 440, 550 volts.....	1,182
For direct current 115 or 230 volts.....	1,280

The price of the machine without the $\frac{7}{8}$ h. p. motor, magnetic switch and push-button station, but with motor pulley and 7 V-belts and also with the $\frac{1}{4}$ h. p. pump motor is as follows:

For 60 cycles, 2 or 3 phase, 220, 440, 550 volts.....	934
For 50 cycles, 2 or 3 phase, 220, 440, 550 volts.....	941
For 25 cycles, 2 or 3 phase, 220, 440, 550 volts.....	949
For direct current 115 or 230 volts.....	939

Price of standard straight or swivel vise when purchased as extra equipment..... 90 |

Charge for installing electrical equipment furnished by customer..... 20 |

TYPE G—WET CUTTING

The price of the machine complete is as follows:

For 60 cycles, 2 or 3 phase, 220, 440, 550 volts.....	\$499
For 50 cycles, 2 or 3 phase, 220, 440, 550 volts.....	508
For 25 cycles, 2 or 3 phase, 220, 440, 550 volts.....	546
For direct current 115 or 230 volts.....	573

The price of the machine without the $1\frac{1}{2}$ -h. p. motor and switch, but with motor pulley and 2 V-belts and also with the $\frac{1}{4}$ -h. p. pump motor is as follows:

For 60 cycles, 2 or 3 phase, 220, 440, 550 volts.....	440
For 50 cycles, 2 or 3 phase, 220, 440, 550 volts.....	446
For 25 cycles, 2 or 3 phase, 220, 440, 550 volts.....	453
For direct current 115 or 230 volts.....	443

Charge for installing electrical equipment furnished by customer..... 15 |

TYPE H

Machine complete, with motor for 2 or 3 phase, 60 cycle, 220-440-550 volt current..... \$368 |

Machine without electrical equipment..... 300 |

Extra for D. C., 25 or 50 cycle current—See reverse side for motor prices.

Charge for installing electrical equipment furnished by customer..... 10 |

TYPE C

The price of the machine complete is as follows:

For 60 cycles 2 or 3 phase, 220, 440, 550 volts, totally inclosed motor.....	\$821
For 50 cycles 2 or 3 phase, 220, 440, 550 volts, totally inclosed motor.....	867
For 25 cycles 2 or 3 phase, 220, 440, 550 volts, price on application.....	
For D. C. 115 or 230 volts totally inclosed motor.....	1,127
For D. C. 115 or 230 volts splash proof motor.....	1,052

The price of the machine without the $\frac{7}{8}$ h. p. motor magnetic switch and push-button station but with motor pulley and 7 V-belts is as follows:

For 60 cycles, 2 or 3 phase, 220, 440, 550 volts.....	652
For 50 cycles, 2 or 3 phase, 220, 440, 550 volts.....	658
For 25 cycles, 2 or 3 phase, 220, 440, 550 volts, price on application.....	
For D. C. 115 or 230 volts.....	652

Charge for installing electrical equipment furnished by customer..... 20 |

Swivel vise, each..... 75 |

181

DOELGER & KIRSTEN, INC., MILWAUKEE, WIS.

ALL STEEL ALLIGATOR SHEARS f. o. b. MILWAUKEE

NO. 1 HIGH AND LOW KNIFE WITH 10-INCH BLADES

Belt driven, shear only (without motor, belt or timbers).....	\$845
Belt driven, shear only on timbers (without motor and belt).....	875
Belt driven, shear on timbers (with 3 hp., 3 ph., 60 cy., 220 v. motor and belt).....	965
Gear driven, shear only (without motor and timbers).....	875
Gear driven, shear only on timbers (without motor).....	910
Gear driven, shear on timbers (with 3 hp., 3 ph., 60 cy., 220 v. motor).....	980
Gear driven, shear on wheels (with 3 hp., 3 ph., 60 cy., 220 v. motor).....	1,030
For 12" blades, add \$25; for 14" blades, add \$50 to above lists.	
For Automatic No. 1 add to above lists.....	225

NO. 1½ HIGH AND LOW KNIFE WITH 12- OR 24-INCH BLADES

Belt driven, shear only (without belt, motor or timbers).....	1,420
Belt driven, shear only on timbers (without belt and motor).....	1,465
Belt driven, shear on timbers (with 5 hp., 3 ph., 60 cy., 220 v. motor and belt).....	1,580
Gear driven, shear only (without motor or timbers).....	1,475
Gear driven, shear only on timbers (without motor).....	1,520
Gear driven, shear on timbers (with 5 hp., 3 ph., 60 cy., 220 v. motor).....	1,610
Gear driven, shear on wheels (with 5 hp., 3 ph., 60 cy., 220 v. motor).....	1,690
For automatic No. 1½ add to above lists.....	325

NO. 2 LOW KNIFE WITH 21- OR 24-INCH BLADES

Belt driven, shear only (without belt, motor, starter or timbers).....	1,995
Belt driven, shear only on timbers (without belt, motor or starter).....	2,045
Belt driven, shear on timbers (with 7½ hp., 3 ph., 60 cy., 220 v. motor, starter and belt).....	2,220
Gear driven, shear only (without motor, starter or timbers).....	2,095
Gear driven, shear only on timbers (without motor or starter).....	2,145
Gear driven, shear on timbers (with 7½ hp., 3 ph., 60 cy., 220 v. motor and starter).....	2,290
For automatic No. 2 add to above lists.....	425

NO. 2 HIGH KNIFE WITH 21- OR 24-INCH BLADES

Belt driven, shear only (without belt, motor, starter or timbers).....	2,045
Belt driven, shear only on timbers (without motor, starter or belt).....	2,095
Belt driven, shear on timbers (with 7½ hp., 3 ph., 60 cy., 220 v. motor, starter and belt).....	2,270
Gear driven, shear only (without motor, starter or timbers).....	2,145
Gear driven, shear only on timbers (without motor or starter).....	2,195
Gear driven, shear on timbers (with 7½ hp., 3 ph., 60 cy., 220 v. motor and starter).....	2,340
For automatic No. 2 add to above lists.....	425
3-5-7½ hp. motors are 1,750 r. p. m.	

NO. 3 LOW KNIFE

24" blades, belt driven shear only (without motor, starter, or belt).....	3,410
30" blades, belt driven shear only (without motor, starter or belt).....	3,520
24" blades, belt driven shear (with 15 hp., 3 ph., 60 cy., 220 v. motor, starter and belt).....	3,715
30" blades, belt driven shear (with 15 hp., 3 ph., 60 cy., 220 v. motor, starter and belt).....	3,825
24" blades, gear driven (without motor or starter).....	3,685
30" blades, gear driven shear (without motor or starter).....	3,795
24" blades, gear driven shear (with 15 hp., 3 ph., 60 cy., 220 v. motor and starter).....	3,920
30" blades, gear driven shear (with 15 hp., 3 ph., 60 cy., 220 v. motor and starter).....	4,030
For automatic No. 3 add to above lists.....	800

DOELGER & KIRSTEN, INC., MILWAUKEE, WIS.—Continued

NO. 3 HIGH KNIFE

24" blades, belt driven shear only (without motor, starter or belt).....	\$3, 520
30" blades, belt driven shear only (without motor, starter or belt).....	3, 630
36" blades, belt driven shear only (without motor, starter or belt).....	3, 795
24" blades, belt driven shear (with 15 hp., 3 ph., 60 cy., 220 v. motor, starter and belt).....	3, 825
30" blades, belt driven shear (with 15 hp., 3 ph., 60 cy., 220 v. motor, starter and belt).....	3, 935
36" blades, belt driven shear (with 15 hp., 3 ph., 60 cy., 220 v. motor, starter and belt).....	4, 100
24" blades, gear driven shear (without motor and starter).....	3, 795
30" blades, gear driven shear (without motor and starter).....	3, 910
36" blades, gear driven shear (without motor and starter).....	4, 075
24" blades, gear driven shear (with 15 hp., 3 ph., 60 cy., 220 v. motor and starter).....	4, 030
30" blades, gear driven shear (with 15 hp., 3 ph., 60 cy., 220 v. motor and starter).....	4, 140
36" blades, gear driven shear (with 15 hp., 3 ph., 60 cy., 220 v. motor and starter).....	4, 310
For Automatic No. 3 add to above lists.....	800

NO. 3 1/4 LOW KNIFE

24" blades, belt driven shear only (without motor, starter or belt).....	4, 835
30" blades, belt driven shear only (without motor, starter or belt).....	5, 000
24" blades, belt driven shear (with 25 hp., 3 ph., 60 cy., 220 v. motor, starter and belt).....	5, 445
30" blades, belt driven shear (with 25 hp., 3 ph., 60 cy., 220 v. motor, starter and belt).....	5, 610
24" blades, gear driven shear only (without motor or starter).....	5, 165
30" blades, gear driven shear only (without motor or starter).....	5, 335
24" blades, gear driven shear (with 25 hp., 3 ph., 60 cy., 220 v. motor and starter).....	5, 720
30" blades, gear driven shear (with 25 hp., 3 ph., 60 cy., 220 v. motor and starter).....	5, 890

NO. 3 1/4 HIGH KNIFE

30" blades, belt driven shear only (without motor, starter or belt).....	5, 010
36" blades, belt driven shear only (without motor, starter or belt).....	5, 305
42" blades, belt driven shear only (without motor, starter or belt).....	5, 555
30" blades, belt driven shear (with 25 hp., 3 ph., 60 cy., 220 v. motor, starter and belt).....	5, 665
36" blades, belt driven shear (with 25 hp., 3 ph., 60 cy., 220 v. motor, starter and belt).....	5, 915
42" blades, belt driven shear (with 25 hp., 3 ph., 60 cy., 220 v. motor, starter and belt).....	6, 165
30" blades, gear driven shear only (without motor or starter).....	5, 390
36" blades, gear driven shear only (without motor or starter).....	5, 640
42" blades, gear driven shear only (without motor or starter).....	5, 890
30" blades, gear driven shear (with 25 hp., 3 ph., 60 cy., 220 v. motor and starter).....	5, 945
36" blades, gear driven shear (with 25 hp., 3 ph., 60 cy., 220 v. motor and starter).....	6, 195
42" blades, gear driven shear (with 25 hp., 3 ph., 60 cy., 220 v. motor and starter).....	6, 500

NO. 4 LOW KNIFE

24" blades, belt driven shear only (without motor, belt or starter).....	6, 355
30" blades, belt driven shear only (without motor, belt or starter).....	6, 470
36" blades, belt driven shear only (without motor, belt or starter).....	6, 665
24" blades, belt driven shear (with 40 hp., 3 ph., 60 cy., 220 v. motor, starter and belt).....	7, 035
30" blades, belt driven shear (with 40 hp., 3 ph., 60 cy., 220 v. motor, starter and belt).....	7, 145

DOELGER & KIRSTEN, INC., MILWAUKEE, WIS.—Continued

NO. 4 LOW KNIFE—Continued

36" blades, belt driven shear (with 40 hp., 3 ph., 60 cy., 220 v. motor, starter and belt).....	\$7, 340
24" blades, gear driven shear only (without motor and starter).....	6, 745
30" blades, gear driven shear only (without motor and starter).....	6, 855
36" blades, gear driven shear only (without motor and starter).....	7, 055
24" blades, gear driven shear (with 40 hp., 3 ph., 60 cy., 220 v. motor and starter).....	7, 310
30" blades, gear driven shear (with 40 hp., 3 ph., 60 cy., 220 v. motor and starter).....	7, 420
36" blades, gear driven shear (with 40 hp., 3 ph., 60 cy., 220 v. motor and starter).....	7, 615
For Automatic No. 4 add to above lists.....	1, 000

NO. 4 HIGH KNIFE

24" blades, belt driven shear only (without motor and starter).....	6, 625
30" blades, belt driven shear only (without motor and starter).....	6, 735
36" blades, belt driven shear only (without motor and starter).....	6, 935
24" blades, belt driven shear (with 40 hp., 3 ph., 60 cy., 220 v. motor, starter and belt).....	7, 300
30" blades, belt driven shear (with 40 hp., 3 ph., 60 cy., 220 v. motor, starter and belt).....	7, 415
36" blades, belt driven shear (with 40 hp., 3 ph., 60 cy., 220 v. motor, starter and belt).....	7, 610
24" blades, gear driven shear only (without motor or starter).....	7, 015
30" blades, gear driven shear only (without motor or starter).....	7, 125
36" blades, gear driven shear only (without motor or starter).....	7, 325
24" blades, gear driven shear (with 40 hp., 3 ph., 60 cy., 220 v. motor and starter).....	7, 575
30" blades, gear driven shear (with 40 hp., 3 ph., 60 cy., 220 v. motor and starter).....	7, 690
36" blades, gear driven shear (with 40 hp., 3 ph., 60 cy., 220 v. motor and starter).....	7, 885
For automatic No. 4 add to above lists.....	1, 000
3, 5, 7 1/2 hp. motors are 1,750 r. p. m. 15, 25, 40 hp. motors are 1,150 r. p. m.	

DOUGLAS MACHINERY CO., INC., NEW YORK, N. Y.

No. 0 Douglas Plain Miller without motor, \$1,650, weight 1,635 pounds.
No. 7 Douglas Universal Slotting Machine without motor, \$2,155, weight 1,825 pounds.

DREIS & KRUMP MFG. CO., CHICAGO, ILL.

NOTE.—Price corrections on L. & D. presses and steel press brakes. Changes made upon advice of manufacturer. Prices differ from those shown in "Prices of New Machine Tools," first edition.

"L" SERIES PRESSES

Size	Capacity, mild steel		Distance between housings	Over-all bending length	Weight	Price, one-speed	Price, variable-speed
	Length	Capacity					
	Inches	Gage	Inches	Inches	Pounds		
4L6.....	72	10	54	72	8,000		\$1,710
6L8.....	96	12	78	96	9,225		1,850
8L10.....	120	15	102	120	11,035		1,990

Prices on these sizes include drive motor with reversing control, also power adjustment of ram with motor and control, for 2- or 3-phase A. C. current. Extra for direct current on application. Single phase A. C. not furnished. Variable speed drive, die holder, and standard back gage furnished as regular equipment. All dies are extra. Extra for front-operated micrometer back gage, \$90.

DREIS & KRUMP MFG. CO., CHICAGO, ILL.—Continued

"D" SERIES PRESSES

Size	Capacity, mild steel plate	Distance between housings	Over-all bending length	Approximate shipping weight	Price	Air counter-balance	18-inch throat	Longer stroke per inch	2-speed	Motor required ¹
	<i>Ft. In.</i>	<i>Ft. In.</i>	<i>Ft. In.</i>	<i>Pounds</i>						
404D...	4 5/16	4 6	6 0	12,800	\$2,875	\$210				
406D...	6 7/32	6 6	8 0	15,200	2,975	210				
408D...	8 3/16	8 6	10 0	19,300	3,090	210				
410D...	10 (2)	10 6	12 0	22,900	3,300	220				
412D...	12 (2)	12 6	14 0	26,200	3,670	220				
454D...	4 7/16	4 6	6 0	16,500	3,400	235				
456D...	6 5/16	6 6	8 0	20,000	3,525	235				
458D...	8 1/4	8 6	10 0	23,500	3,740	235				
4510D...	10 3/16	10 6	12 0	28,600	3,950	250				
4512D...	12 5/32	12 6	14 0	33,100	4,200	250				
4514D...	14 3/8	14 6	16 0	38,900	4,830	250				
504D...	4 9/16	4 6	6 2	23,400	3,850	265				
506D...	6 3/8	6 6	8 2	26,000	4,075	265				
508D...	8 5/16	8 6	10 2	30,400	4,275	265				
510D...	10 1/4	10 6	12 2	35,200	4,510	280				
512D...	12 3/32	12 6	14 2	41,000	4,790	280				
514D...	14 1/2	14 6	16 2	49,100	5,230	280				
516D...	16 5/32	16 6	18 2	56,300	6,140	No extra				
606D...	6 9/16	6 6	8 6	34,500	6,175	320				
608D...	8 7/16	8 6	10 6	40,600	6,380	320				
610D...	10 5/8	10 6	12 6	48,000	6,500	345				
612D...	12 3/8	12 6	14 6	56,200	7,120	No extra				
614D...	14 1/4	14 6	16 6	64,000	7,530	No extra				
616D...	16 3/32	16 6	18 6	74,000	8,575	No extra				
708D...	8 5/8	8 6	12 0	57,400	8,600					
710D...	10 1/2	10 6	14 0	65,800	8,940					
712D...	12 1/2	12 6	16 0	73,600	9,360	No extra				
714D...	14 3/8	14 6	18 0	82,000	10,200	No extra				
716D...	16 3/8	16 6	20 0	94,700	11,000	No extra				
808D...	8 7/8	8 6	12 0	73,000	11,400					
810D...	10 3/4	10 6	14 0	82,000	11,880					
812D...	12 9/16	12 6	16 0	92,000	12,480	No extra				
814D...	14 1/2	14 6	18 0	113,600	13,550	No extra				
816D...	16 3/16	16 6	20 0	125,000	15,120	No extra				

Prices on these sizes include ram adjustment motor, standard die holder, one pair adjustable gages, and arrangement for V-belt motor drive, including sheaves and belts, but not including drive motor and control.

¹ Motor recommended: High-slip continuous-duty type. All dies are extra. Air-operated clutch can be furnished at additional cost.

² 10-gage.

³ 12-gage.

⁴ 5 hp., 1,800 r. p. m.

⁵ 7 1/2 hp., 1,800 r. p. m.

⁶ 10 hp., 1,800 r. p. m.

⁷ 15 hp., 1,800 r. p. m.

⁸ 20 hp., 1,800 r. p. m.

⁹ 30 hp., 1,800 r. p. m.

HAND BOX AND PAN BRAKES

No.	Length	Capacity	Finger extension	Price	No.	Length	Capacity	Finger extension	Price
	<i>Feet</i>	<i>Gage</i>	<i>Inches</i>			<i>Feet</i>	<i>Gage</i>	<i>Inches</i>	
30.....	3	14	6	\$185	36.....	6	14	6	\$305
31.....	4	14	6	225	37.....	8	14	6	385
32.....	5	14	6	290	38.....	10	16	6	465
33.....	3	14	8	210	39.....	6	14	8	375
34.....	4	14	8	265	40.....	8	16	8	450
35.....	5	14	8	335					

Full set of fingers in 3-inch, 4-inch and 5-inch widths furnished as standard equipment.

PORTABLE BRAKES

No.	Length	Capacity	Price	No.	Length	Capacity	Price
	<i>Inches</i>	<i>Gage</i>			<i>Inches</i>	<i>Gage</i>	
420.....	49	20	\$105	520.....	61	20	\$110

DREIS & KRUMP MFG. CO., CHICAGO, ILL.—Continued

FOLDER BRAKES

No.	Length	Capacity	Price	No.	Length	Capacity	Price
	<i>Inches</i>	<i>Gage</i>			<i>Inches</i>	<i>Gage</i>	
25.....	36	20	\$115	27.....	48	20	\$135
26.....	42	20	125				

UNIVERSAL HAND BRAKES

	<i>Feet Inches</i>	<i>Gage</i>			<i>Feet Inches</i>	<i>Gage</i>	
L-3.....	3 1/2	12	\$280	W-6.....	6 1	14	\$370
W-3.....	3 1/2	14	230	R-6.....	6 1	16	320
L-4.....	4 1/2	12	300	L-8.....	8 1	12	545
W-4.....	4 1/2	14	260	W-8.....	8 1	14	460
L-5.....	5 1	12	350	R-8.....	8 1	16	380
W-5.....	5 1	14	345	W-10.....	10 1	14	610
R-5.....	5 1	16	290	R-10.....	10 1	16	540
L-6.....	6 1	12	430	U-10.....	10 1	18	480

Standard equipment includes regular bending bars U1, U2, U5, U6, angle bar U7, filler bar U22, swinging quadrant gage, and wrenches.

Moulding forms and clamps can be furnished as on standard brakes at same prices.

STANDARD HAND BENDING BRAKES

	<i>Feet Inches</i>	<i>Gage</i>			<i>Feet Inches</i>	<i>Gage</i>	
312.....	3 1/2	12	\$180	616.....	6 1	16	\$190
314.....	3 1/2	14	130	618.....	6 1	18	150
316.....	3 1/2	16	105	812.....	8 1	12	405
412.....	4 1/2	12	190	814.....	8 1	14	310
414.....	4 1/2	14	150	816.....	8 1	16	230
416.....	4 1/2	16	115	818.....	8 1	18	170
512.....	5 1	12	260	1014.....	10 1	14	440
514.....	5 1	14	225	1016.....	10 1	16	370
516.....	5 1	16	170	1018.....	10 1	18	310
518.....	5 1	18	130	1218.....	12 1	18	550
612.....	6 1	12	300	1222.....	12 1	22	450
614.....	6 1	14	240				

Standard equipment includes wrenches and stop gage. Moulding forms not included in above prices. Extra for set of five moulding forms and clamps.

3-foot brakes, \$5; 4-foot brakes, \$6; 5-foot brakes, \$7; 6-foot brakes \$8; 8-foot brakes, \$10; 10-foot brakes \$12; 12-foot brakes, \$14.

CHICAGO STEEL POWER BRAKES WITH HAND CLAMP

[All prices cover machines on skids f. o. b. Chicago, Ill.—prices net]

No.	Length	Capacity	Price	No.	Length	Capacity	Price
	<i>Feet In.</i>				<i>Feet In.</i>		
133.....	3 1/2	12 gage.....	\$550	182.....	8 1	14 gage.....	\$800
134.....	3 1/2	10 gage.....	575	183.....	8 1	12 gage.....	975
135.....	3 1/2	3/4 inch.....	650	184.....	8 1	10 gage.....	1,260
136.....	3 1/2	1/2 inch.....	905	185.....	8 1	3/4 inch.....	1,480
137.....	3 1/2	3/8 inch.....	1,160	186.....	8 1	1/4 inch.....	2,320
138.....	3 1/2	1/4 inch.....	1,465	201.....	10 1	16 gage.....	825
143.....	4 1/2	12 gage.....	625	202.....	10 1	14 gage.....	980
144.....	4 1/2	10 gage.....	705	203.....	10 1	12 gage.....	1,395
145.....	4 1/2	3/4 inch.....	905	204.....	10 1	10 gage.....	1,680
146.....	4 1/2	1/2 inch.....	1,160	205.....	10 1	3/4 inch.....	2,500
147.....	4 1/2	3/8 inch.....	1,510	221.....	12 1	16 gage.....	1,520
148.....	4 1/2	1/4 inch.....	1,775	222.....	12 1	14 gage.....	1,690
162.....	6 1	14 gage.....	655	223.....	12 1	12 gage.....	2,130
163.....	6 1	12 gage.....	795	224.....	12 1	10 gage.....	3,000
164.....	6 1	10 gage.....	1,025	241.....	14 1	16 gage.....	1,875
165.....	6 1	3/4 inch.....	1,230	242.....	14 1	14 gage.....	2,320
166.....	6 1	1/2 inch.....	1,710	243.....	14 1	12 gage.....	3,400
167.....	6 1	3/8 inch.....	1,990	261.....	16 1	16 gage.....	2,675
168.....	6 1	1/4 inch.....	2,825	262.....	16 1	14 gage.....	3,265
181.....	8 1	16 gage.....	680	263.....	16 1	12 gage.....	3,815

DREIS & KRUMP MFG. CO., CHICAGO, ILL.—Continued
POWER BOX AND PAN BRAKES WITH HAND CLAMP

No.	Length	Capacity	Finger extension	Price	No.	Length	Capacity	Finger extension	Price
	Feet		Inches			Feet		Inches	
60	4	10 gage	6	\$900	67	6	10 gage	8	\$1,430
61	5	10 gage	6	1,090	68	8	10 gage	8	1,725
62	6	10 gage	6	1,250	70	12	10 gage	12	1,155
63	8	10 gage	6	1,600	71	4	10 gage	12	1,475
64	10	10 gage	8	950	72	6	10 gage	12	1,700
65	4	10 gage	8	1,150	73	8	10 gage	12	1,995

POWER BRAKES WITH POWER CLAMP

No.	Ft. In.	Capacity	Price	No.	Ft. In.	Capacity	Price
187	8 1	3/4 inch	\$3,750	229	12 1	3/4 inch	\$10,500
188	8 1	1/2 inch	4,400	244	14 1	10 gage	3,800
189	8 1	3/4 inch	6,250	245	14 1	3/4 inch	5,820
206	10 1	3/4 inch	3,880	246	14 1	1/2 inch	6,675
207	10 1	3/4 inch	4,940	247	14 1	3/4 inch	8,400
208	10 1	1/2 inch	5,600	248	14 1	1/2 inch	11,850
209	10 1	3/4 inch	8,100	249	16 1	10 gage	5,890
225	12 1	3/4 inch	4,430	265	16 1	3/4 inch	7,250
226	12 1	1/2 inch	5,475	266	16 1	1/2 inch	11,000
227	12 1	3/4 inch	6,200	267	16 1	3/4 inch	12,350
228	12 1	1/2 inch	7,450	268	16 1	1/2 inch	14,400

CHICAGO STEEL PRESS BRAKES

Size	Capacity, mild steel		Distance between housings	Over-all bending length	Weight	Price, one-speed	Price, vari-speed
	Length	Capacity					
	Inches	Gage	Inches	Inches	Pounds		
253	50	14	37	50	2,500	\$760	\$805
254	60	16	49	60	3,300	855	900
255	72	18	61	72	4,100	950	995
333	48	10	37	50	3,750	1,020	1,075
334	60	12	49	60	4,550	1,110	1,165
335	72	14	61	72	5,400	1,185	1,240

Prices include motor with reversing control, for 2- or 3-phase A. C. current. Extra for direct current quoted on application. Single phase A. C. not furnished. Die holder and standard back gage are furnished. All dies are extra. Extra for front-operated micrometer back gages \$90.

CHICAGO STEEL POWER SQUARING SHEARS

[All prices cover machines on skids f. o. b. Chicago, Ill. Add 20 percent to list prices]

No.	Capacity, continuous duty		Cutting length	With-out gap	Add for 18" gap	Add for 24" gap	Motor required	
	Mild steel	Stainless steel					Horse-power	Speed
236	14 gage	16 gage	36	\$840	\$70	\$120	3	1,200
242	do	do	42	900	70	120	3	1,200
248	do	do	48	940	70	120	3	1,200
260	do	do	60	985	70	120	3	1,200
272	do	do	72	1,080	70	120	3	1,200
296	do	do	96	1,650	70	120	5	1,200
2120	do	do	120	1,795	70	120	5	1,200
2144	do	do	144	2,130	70	120	5	1,200
336	10 gage	12 gage	36	1,030	120	210	5	1,800
342	do	do	42	1,060	120	210	5	1,800
348	do	do	48	1,120	120	210	5	1,800
360	do	do	60	1,180	120	210	5	1,800
372	do	do	72	1,270	120	210	5	1,800
396	do	do	96	1,870	120	210	5	1,800
3120	do	do	120	2,080	120	210	7 1/2	1,800
3144	do	do	144	2,500	120	210	7 1/2	1,800
3168	do	do	168	3,100	120	210	7 1/2	1,800

DREIS & KRUMP MFG. CO., CHICAGO, ILL.—Continued
CHICAGO STEEL POWER SQUARING SHEARS—Continued

[All prices cover machines on skids f. o. b. Chicago, Ill. Add 20 percent to list prices]

No.	Capacity, continuous duty		Cutting length	With-out gap	Add for 18" gap	Add for 24" gap	Motor required	
	Mild steel	Stainless steel					Horse-power	Speed
436	3/4 inch	10 gage	36	\$1,320	\$150	\$250	7 1/2	1,800
442	do	do	42	1,375	150	250	7 1/2	1,800
448	do	do	48	1,410	150	250	7 1/2	1,800
460	do	do	60	1,465	150	250	7 1/2	1,800
472	do	do	72	1,560	150	250	7 1/2	1,800
496	do	do	96	2,400	150	250	7 1/2	1,800
4120	do	do	120	2,760	150	250	10	1,800
4144	do	do	144	3,170	150	250	10	1,800
4168	do	do	168	3,900	150	250	10	1,800
536	3/4 inch	3/4 inch	36	1,680	180	300	7 1/2	1,800
542	do	do	42	1,750	180	300	7 1/2	1,800
548	do	do	48	1,825	180	300	7 1/2	1,800
560	do	do	60	1,920	180	300	7 1/2	1,800
572	do	do	72	2,040	180	300	7 1/2	1,800
596	do	do	96	2,760	180	300	7 1/2	1,800
5120	do	do	120	3,210	180	300	10	1,800
5144	do	do	144	3,900	180	300	10	1,800
5168	do	do	168	4,680	180	300	10	1,800
642	3/4 inch	3/4 inch	42	2,380	240	390	10	1,800
648	do	do	48	2,450	240	390	10	1,800
660	do	do	60	2,640	240	390	10	1,800
672	do	do	72	2,880	240	390	10	1,800
696	do	do	96	3,600	240	390	10	1,800
6120	do	do	120	3,970	240	390	15	1,800
6144	do	do	144	4,530	240	390	15	1,800
6168	do	do	168	6,030	240	390	15	1,800
748	3/4 inch	3/4 inch	48	3,420	300	480	15	1,800
760	do	do	60	3,690	300	480	15	1,800
772	do	do	72	4,350	300	480	15	1,800
796	do	do	96	5,220	300	480	15	1,800
7120	do	do	120	6,240	300	480	20	1,800
7144	do	do	144	7,560	300	480	20	1,800
7168	do	do	168	8,820	300	480	20	1,800
860	3/4 inch	3/4 inch	60	4,750	420	650	25	1,800
872	do	do	72	5,510	420	650	25	1,800
896	do	do	96	6,750	420	650	25	1,800
8120	do	do	120	7,890	420	650	35	1,800
8144	do	do	144	9,030	420	650	35	1,800
8168	do	do	168	11,065	420	650	35	1,800
960	1 inch	1 inch	60	5,880	540	780	40	1,800
972	do	do	72	6,690	540	780	40	1,800
996	do	do	96	8,185	540	780	40	1,800
9120	do	do	120	9,230	540	780	60	1,800
9144	do	do	144	10,800	540	780	60	1,800
9168	do	do	168	12,660	540	780	60	1,800

THE ECONOMY ENGINEERING COMPANY, WILLOUGHBY, OHIO

Type P—1 inch semiautomatic pointing machine, without motor	\$1,975
Type 3300—3/4 inch automatic pointing machine with motors	1,975
Type 3400—3/4 inch automatic pointing machine with motors	2,850
Type K pointing and shaving machine for short work, without motor	2,075
Type LS—3/4 inch standard automatic shaving machine without motor	2,950
Type S—1 inch standard automatic shaving machine without motor	3,850
Type D—3/4 inch 4-spindle semiautomatic threading machine, without motor or die heads	4,200
Type PT—1 inch automatic combined pointing and threading machine, without die head or motor	3,250
Type PS automatic combined pointing and threading machine, without die head or motor	3,150

EDLUND MACHINERY COMPANY, INC., CORTLAND, N. Y.

DRILLS

Type of machine	Model No.	Number of spindles	Weight	Price	Type of machine	Model No.	Number of spindles	Weight	Price
			Pounds					Pounds	
Edlund No. 0.....	O-1	1	460	\$175	Edlund No. 3B-15".....	3-B-1	1	1,300	\$325
Do.....	O-2	2	700	320	Do.....	3-B-2	2	2,150	895
Do.....	O-3	3	1,100	450	Do.....	3-B-3	3	3,050	1,280
Do.....	O-4	4	1,410	605	Do.....	3-B-4	4	3,570	1,675
Do.....	O-5	5	1,800	765	Do.....	3-B-5	5	4,485	2,085
Do.....	O-6	6	2,180	895	Do.....	3-B-6	6	5,400	2,430
Edlund No. 1B-7".....	1-B-1	1	570	320	Do.....	3-B-8	8	6,800	2,945
Do.....	1-B-2	2	950	585	Edlund No. 4B-12".....	4-B-1	1	2,000	730
Do.....	1-B-3	3	1,375	850	Do.....	4-B-2	2	3,525	1,320
Do.....	1-B-4	4	1,775	1,090	Do.....	4-B-3	3	5,035	1,920
Do.....	1-B-5	5	2,175	1,330	Do.....	4-B-4	4	6,500	2,540
Do.....	1-B-6	6	2,580	1,575	Edlund No. 2MS-12".....	1-MS	1	1,025	715
Edlund No. 1B-12".....	1-B-1	1	670	360	Do.....	2-MS	2	2,200	1,265
Do.....	1-B-2	2	1,090	635	Do.....	3-MS	3	3,150	1,815
Do.....	1-B-3	3	1,610	910	Do.....	4-MS	4	3,900	2,365
Do.....	1-B-4	4	2,225	1,160	Do.....	5-MS	5	4,725	2,915
Do.....	1-B-5	5	2,725	1,415	Do.....	6-MS	6	5,550	3,465
Do.....	1-B-6	6	3,325	1,665	Do.....	8-MS	8	7,200	4,710
Edlund No. 2B-8".....	2-B-1	1	940	425	Edlund No. 2MS-15".....	1-MS	1	1,550	745
Do.....	2-B-2	2	1,690	730	Do.....	2-MS	2	2,625	1,345
Do.....	2-B-3	3	2,500	1,060	Do.....	3-MS	3	3,650	1,945
Do.....	2-B-4	4	2,850	1,385	Do.....	4-MS	4	4,800	2,535
Do.....	2-B-5	5	3,475	1,695	Do.....	5-MS	5	5,800	3,135
Do.....	2-B-6	6	4,100	2,035	Do.....	6-MS	6	6,800	3,740
Do.....	2-B-8	8	5,400	2,705	Do.....	8-MS	8	8,800	5,015
Edlund No. 3B-12".....	3-B-1	1	1,050	470					
Do.....	3-B-2	2	2,000	805					
Do.....	3-B-3	3	2,800	1,115					
Do.....	3-B-4	4	3,200	1,465					
Do.....	3-B-5	5	3,987	1,795					
Do.....	3-B-6	6	4,775	2,130					
Do.....	3-B-8	8	5,900	2,515					

ENGINEERING AND RESEARCH CORPORATION, RIVERDALE, MD.

"ERCO" SHEET METAL FORMERS—MOTOR DRIVEN

Model "HD." Complete with two-speed (900-1,800 r. p. m.) motor, magnetic switch, cam switch, push button station, and one set ¹ flanging tools.....	\$1,350
Model "HD." Without motor and control but including motor base, grooved motor pulley, "V" belts and one set ¹ flanging tools.....	1,265
Extra tools for different height of flange, style, or edge, or thickness of material (except some special tools) per set ¹	20

"ERCO" SHEET METAL SHRINKER—MOTOR DRIVEN

No. 476. Complete with motor, magnetic starter, push button station and one set of shrinking jaws.....	2,000
Extra shrinking jaws (4 to set with springs).....	60

"ERCO" AUTOMATIC PUNCHING AND RIVETING MACHINES—PNEUMATIC

No. 244-96". Beam type.....	3,500
No. 1002-48". Throat C frame type with foot operated pneumatic remote control unit and drop anvil support that can be lowered and raised 3½" by the same remote control to obtain 4½" maximum opening in riveting head (standard equipment on this number).....	4,500
No. 279-36". Throat C frame type with stationary foot pedal control.....	3,400
No. 262-18". Throat C frame type on floor pedestal with stationary foot pedal control and balancer with hand operated control.....	3,400
No. 262-18". Throat C frame type on floor pedestal with stationary foot pedal control.....	3,200
No. 262-18". Throat C frame type with balancer and hand operated control but without floor pedestal and foot control.....	3,000

¹ One set flanging tools consists of 1 hold-down tool, 1 brakehead tool, and 2 filler blocks.

ENGINEERING AND RESEARCH CORPORATION, RIVERDALE, MD.—Con.

"ERCO" AUTOMATIC PUNCHING AND RIVETING MACHINES—PNEUMATIC—continued

Above riveter prices include tooling for one diameter and head style rivet. Extra parts to change for different diameter rivet including hopper, feed, punch, stripper, anvil post, anvil, rivet shoe, rivet set, and die button (per set).....	\$200
Extra parts to change for different style rivet head without diameter change (per set).....	75

"ERCO" STRETCHING PRESSES—HYDRAULIC

HYSP-1-75. One cylinder, 75-ton capacity, complete with pumps, motors, and control.....	7,000
HYSP-2-150. Two cylinder, 150-ton capacity, complete with pumps, motors, and control.....	12,000
HYSP-2-300. Two cylinder, 300-ton capacity, complete with pumps, motors and control.....	19,000

Motor prices included in machine quotations are for the more common 220-440 or 550-volt, 2- or 3-phase 60-cycle current. When the available electrical current requires higher-priced motors and control an additional charge will be made covering the extra cost of such motors and control.

All prices are f. o. b. Riverdale and include boxing for domestic shipping.

All prices are subject to change without notice.

Erco propeller profiling machine, less cams and cam grinding attachment. \$10,000
² Denotes price correction advised by manufacturer. Differs from that shown in first edition of "Prices of New Machine Tools."

ERIE FOUNDRY CO., ERIE, PA.

DOUBLE FRAME FORGING HAMMERS

[Semisteel anvils, frames, and bedplates; forged steel rams; steel anvil caps; high carbon steel dies; anvils approximately 7½-1 ratio]

Rated size (pounds)	Total net weight	Price	Rated size (pounds)	Total net weight	Price
	Pounds			Pounds	
1,500.....	32,000	\$5,410	5,000.....	84,000	\$11,030
2,000.....	42,000	6,850	6,000.....	106,000	13,670
2,500.....	50,000	7,370	8,000.....	125,000	15,460
3,000.....	58,000	8,410	10,000—2-piece bedplate.....	171,000	18,930
3,500.....	65,000	9,160	12,000—2-piece bedplate.....	195,000	21,540
4,000.....	78,000	10,590			

SELF-CONTAINED TOOL DRESSING HAMMERS

[Semisteel anvils and frames (anvil and frame cast integral); forged steel rams; high carbon steel dies]

Rated size (pounds)	Total net weight	Price	Rated size (pounds)	Total net weight	Price
	Pounds			Pounds	
50.....	2,000	\$1,080	200.....	4,200	\$1,490
100.....	3,000	1,290	300.....	5,300	1,680
150.....	3,200	1,320			

All sizes regularly equipped for foot treadle and hand lever operation.

ERIE FOUNDRY CO., ERIE, PA.—Continued

SINGLE FRAME FORGING HAMMERS

[Semisteel anvils and frames; forged steel rams; forged steel anvil caps; high carbon steel dies; anvils approximately 7½ to 1 ratio]

Rated size (pounds)	Total net weight	Price	Rated size (pounds)	Total net weight	Price
250.....	Pounds 5,700	\$1,700	2,000.....	Pounds 40,000	\$5,920
400.....	8,200	2,060	2,500.....	48,500	6,770
600.....	12,300	2,650	3,000 separate bedplate and frame.	59,000	8,220
800.....	15,000	3,020	3,500 separate bedplate and frame.	63,000	8,670
1,000.....	24,000	3,980	4,000 separate bedplate and frame.	64,500	8,910
1,500.....	33,000	4,930			

Larger sizes on application.

STEAM DROP HAMMERS

Rated size (pounds)	Type of anvil	Approximate shipping weight	Price	Rated size (pounds)	Type of anvil	Approximate shipping weight	Price
400.....		Pounds 14,000	\$5,290	6,000.....		Pounds 172,000	\$27,740
600.....		21,000	6,550	8,000.....		234,000	35,070
800.....		26,000	7,040	10,000.....		276,000	41,600
1,000.....		35,000	7,980	12,000.....	80-ton C. S. top—40-ton S. S. bottom.	320,000	43,620
1,500.....		50,000	10,170				
2,000.....		64,000	12,490				
2,500.....		76,000	13,920	12,000.....	100-ton C. S. top—20-ton R. S. bottom.	320,000	45,090
3,000.....		94,000	16,730				
4,000.....		115,000	18,890				
5,000.....		151,000	23,540				

20-1 ratio cast steel anvils (unless otherwise stated).

Cast steel cylinders with semisteel liner.

Forged carbon steel rams.

Cast semisteel, cast steel, or forged steel guides.

Plain or antifriction bearings in operating connections.

STANDARD TYPE A BOARD DROP HAMMERS

[20-1 ratio semisteel anvils; semisteel ribbed box section frames—extended type; forged alloy steel sow blocks; forged carbon steel rams; plain bearings]

Rated size (pounds)	Approximate shipping weight	Price	Rated size (pounds)	Approximate shipping weight	Price
600.....	Pounds 22,800	\$4,790	1,600.....	Pounds 47,300	\$7,860
800.....	27,000	5,120	2,000.....	60,000	9,160
1,000.....	34,500	6,170	2,500.....	70,500	10,220
1,200.....	39,000	6,600	3,000.....	94,000	12,620
1,400.....	43,000	7,330	3,500.....	104,500	13,570
1,500.....	45,200	7,610	4,000.....	115,000	15,190

TYPE AV BOARD DROP HAMMERS

[20-1 ratio semisteel anvils; semisteel ribbed box section frames—extended type; forged alloy steel sow blocks; forged carbon steel rams; plain bearings; prices include motor, brackets, plates, and mountings; V-belt drives, motor sheaves, motors, and control]

Rated size (pounds)	Approximate shipping weight	Price	Rated size (pounds)	Approximate shipping weight	Price
600.....	Pounds 23,300	\$5,290	1,600.....	Pounds 48,600	\$8,760
800.....	27,500	5,640	2,000.....	62,000	10,590
1,000.....	36,000	6,760	2,500.....	72,500	11,770
1,200.....	40,200	7,180	3,000.....	96,500	14,100
1,400.....	44,200	8,310	3,500.....	107,000	15,640
1,500.....	46,500	8,610	4,000.....	118,000	16,880

ERIE FOUNDRY CO., ERIE, PA.—Continued

TYPE F BOARD DROP HAMMERS

20-1 ratio cast steel anvils; cast steel box section frames—extended type; forged alloy steel sow blocks; forged carbon steel rams; rolled steel tie plates; cast steel roll housings; antifriction bearings on roll shafts]

Rated size (pounds)	Approximate shipping weight	Price	Rated size (pounds)	Approximate shipping weight	Price
600.....	Pounds 24,400	\$8,420	1,600.....	Pounds 49,700	\$10,100
800.....	28,600	9,810	2,000.....	61,100	11,840
1,000.....	37,600	7,980	2,500.....	71,500	13,150
1,200.....	41,800	8,620	3,000.....	85,300	16,800
1,400.....	45,500	9,550	3,500.....	105,800	18,090
1,500.....	47,600	9,890	4,000.....	117,200	20,320

TYPE FV BOARD DROP HAMMERS

[20-1 ratio cast steel anvils; cast steel box-section frames—extended type; forged alloy steel sow blocks; forged carbon steel rams; cast steel roll housings; antifriction bearings on roll shafts; prices include motor brackets, plates, and mountings, V-belt drives, motors, and control]

Rated size (pounds)	Approximate shipping weight	Price	Rated size (pounds)	Approximate shipping weight	Price
600.....	Pounds 25,000	\$7,070	1,600.....	Pounds 51,100	\$10,870
800.....	29,200	7,370	2,000.....	63,500	12,440
1,000.....	38,500	8,640	2,500.....	74,000	13,970
1,200.....	42,200	9,110	3,000.....	98,000	18,220
1,400.....	46,900	10,110	3,500.....	108,500	19,480
1,500.....	49,000	10,590	4,000.....	120,000	21,810

TYPE M DIRECT MOTOR-DRIVEN BOARD DROP HAMMERS

[20-1 ratio cast steel anvils; cast steel ribbed box-section frames—extended type; all steel geared lifting heads; antifriction bearings except on roll shafts; steel tie plates; forged alloy steel sow blocks; forged carbon steel rams; prices include motor plate, mountings, motor, and control]

Rated size (pounds)	Approximate shipping weight	Price	Rated size (pounds)	Approximate shipping weight	Price
600.....	Pounds 25,600	\$7,510	1,600.....	Pounds 53,400	\$11,480
800.....	29,800	7,890	2,000.....	65,000	13,270
1,000.....	40,800	9,740	2,500.....	75,500	14,980
1,200.....	45,000	10,150	3,000.....	101,000	19,150
1,400.....	49,200	10,800	3,500.....	112,500	21,280
1,500.....	51,300	11,270	4,000.....	123,000	23,140

FOUR ROLL BELT-DRIVEN BOARD DROP HAMMERS—COMPLETE

[20-1 ratio cast steel anvils; cast steel ribbed box section frames—extended type; forged carbon steel rams; antifriction bearings]

Rated size (pounds)	Approximate shipping weight	Price
4,000.....	Pounds 124,000	\$22,450
5,000.....	161,000	29,060
6,000.....	182,000	32,320
7,500.....	213,500	35,640
10,000.....	266,500	41,230

ERIE FOUNDRY CO., ERIE, PA.—Continued

FOUR ROLL MOTOR-DRIVEN BOARD DROP HAMMERS—COMPLETE

[20-1 ratio cast steel anvils; cast steel ribbed box section frames—extended type; forged carbon steel rams; antifriction bearings; prices include motor brackets, plates, and mountings, v-belt drives, pulleys, motor sheaves, motors, and control]

Rated size (pounds)	Approximate shipping weight	Price
	<i>Pounds</i>	
4,000.....	127,500	\$25,270
5,000.....	167,000	32,190
6,000.....	188,000	35,780
7,500.....	219,500	39,450
10,000.....	272,500	46,080

PLAIN FLYWHEEL DRIVE—SOLID FRAME—WITH SIDE SHEAR

Size	Total net weight	Price
	<i>Pounds</i>	
8 Plain.....	7,700	\$2,030
10 Plain.....	9,700	2,450

GEARED—SOLID FRAME—WITH SIDE SHEAR

10 S. G.....	10,500	\$2,780
12 S. G.....	17,000	3,400
14 S. G.....	22,000	4,440
16 S. G.....	30,000	5,960
18 D. G.....	42,000	10,450

GEARED—TIE ROD FRAME—WITH SIDE SHEAR

18 D. G.....	48,000	\$12,100
20 D. G.....	65,000	15,020
22 D. G.....		
24 D. G.....	100,000	22,180

GEARED—SOLID FRAME—DOUBLE CRANK—WITHOUT SIDE SHEAR

14 S. G.....	31,000	\$6,320
--------------	--------	---------

PLAIN FLYWHEEL DRIVE—SOLID FRAME—WITHOUT SIDE SHEAR

8 Plain.....	7,100	\$1,940
10 Plain.....	9,000	2,270

PUNCHING OR COLD TRIM PRESSES

EP-35 ¹	10,700	\$2,900
EG-35 ²	11,000	3,040

¹ Plain.² Geared.

AXLE PADDING PRESS—TIE ROD TYPE—C. S. FRAMES, BASE, AND CROWN

Size	Total net weight	Price
	<i>Pounds</i>	
20A.....	65,000	\$18,510
20A.....	65,000	18,510

Without motor or motor bracket.

THE ESPEN LUCAS MACHINE WORKS, PHILADELPHIA, PA.

Cold sawing machines:

No. 440.....	\$4,325	Cold sawing machines—Cont.	No. 667.....	\$7,850
No. 629.....	9,886		No. 670.....	10,360
No. 633.....	7,650		No. 673.....	8,367
No. 637.....	7,850		No. 680.....	6,750
No. 661.....	11,860		No. 693.....	14,300

ETNA MACHINE CO., TOLEDO, OHIO

SWAGING MACHINES (2-DIE)

Series No.	Std. mach. No.	Max. cap. on tubing	Length of die std. mach.	Max. length of die	Flywheel	R. P. M. of swager	H. P. of motor	Wgt. std. mach. skidded	Price std. mach.	Dies per set
								<i>Pounds</i>		
30.....	31	3/4"	1"	2"	10 1/2" x 2 1/4"	600	1	1,400	\$461	\$22.50
70.....	72	3/4"	2"	4"	24" x 4"	400	2	1,400	928	25.00
100.....	103	3/4"	3"	6"	28 1/2" x 4 1/2"	375	3	2,300	1,406	31.00
150.....	156	1 1/4"	6"	18"	31 1/2" x 5"	200	7 1/2	4,300	1,989	45.00
200.....	S204	2"	8"	18"	41" x 6 1/2"	175	10	10,250	3,488	73.00
200.....	208	2"	8"	18"	41" x 6 1/2"	175	10	10,250	3,488	73.00
300.....	312	3"	12"	18"	47 3/4" x 9"	165	25	18,700	6,075	141.00
400.....	412	4"	12"	18"	53 3/4" x 10 3/4"	144	40	21,250	7,622	169.00

¹ Weight without motor.

SWAGING MACHINES (4-DIE)

Series No.	Std. mach. No.	Max. cap. on tubing	Length of die (std.)	R. P. M. of swager	H. P. of motor	Weight std. mach. skidded	Price	Dies per set
						<i>Pounds</i>		
150.....	154	1 1/4"	4"	200	7 1/2	4,000	\$2,025.00	\$84.38
200.....	208	2"	8"	175	15	9,500	3,937.50	140.63
300.....	312	3"	12"	190	25	16,000	6,187.50	253.13
400.....	412	4"	12"	142	40	30,000	9,000.00	365.63

EX-CELL-O CORPORATION, DETROIT, MICH.

Description	Weight	Price
	<i>Pounds</i>	
Precision boring machines:		
2112-A.....	4,000	\$2,260
1212-A.....	4,400	3,650
112-C.....	5,200	3,575
215-A.....	5,800	4,350
218.....	6,500	4,850
54-2 way.....	5,000	5,500
56-3 way.....	7,000	6,975
61—single end, angular type.....	14,000	7,850
61—extra heavy duty, single end angular type.....	20,000	12,000
62—single end angular type.....	10,000	6,550
Thread grinders—precision:		
31.....	4,530	5,750
31-L.....	4,830	7,050
33.....	5,075	9,500
33-L.....	6,500	10,750
35.....	8,500	11,500
35-L.....	9,500	12,850
39 internal.....	8,000	11,650
50.....	15,000	19,500
Carbide tool grinders:		
41-A.....	135	150
44.....	1,370	745
46.....	350	255
47.....	350	245
48.....	650	375
Lapping machines:		
71 internal.....	1,300	1,250
74 center.....	350	585
No. 12 facing machine.....	4,000	3,550

EXCELSIOR TOOL & MACHINE CO., EAST ST. LOUIS, ILL.

No. 6 lever shear.....	\$90
No. 10 combined punch and reversible shear, carbon steel blades.....	255
No. 11 double cutting machine, carbon steel blades.....	275
No. 15 lever shear.....	90
No. 14 angle bending machine, belt driven, 5 h. p. capacity.....	795
For a motor driven unit, add \$185 making the total cost.....	980
No. 14 angle shearing attachment, extra.....	95
Up to last May we made a 3 h. p. unit which sold for \$750, belt driven. Same has been discontinued.	
No. 20 punch press, 20" throat, belt driven.....	385
No. 20 punch press, 26" throat, belt driven.....	440
For motor-driven unit, add \$135 to either size machine.	
No. 50 squaring shear, 50" cutting capacity, belt driven.....	1,475
For motor-driven shear, add \$175. 50" capacity shear is the only type we have made for the past 5 years, other sizes are obsolete.	

FAMCO MACHINE COMPANY, RACINE, WIS.

FAMCO ARBOR PRESSES

	Price		Price
No. 2 plain lever type.....	\$21.50	No. 21 plain lever type.....	\$45.00
No. 2 with 14" pilot wheel.....	25.50	No. 21 with 14" pilot wheel.....	49.00
No. 8 platen—plain lever type.....	21.50	No. 21 with 24" pilot wheel.....	53.00
No. 8 with pilot wheel.....	25.50	No. 21-R simple ratchet type.....	52.50
No. 3 plain lever type.....	30.00	No. 25 plain lever type.....	50.00
No. 3 with 14" pilot wheel.....	34.00	No. 25 with 24" pilot wheel.....	58.00
No. 3 with 24" pilot wheel.....	38.00	No. 25-R simple ratchet type.....	60.00
No. 3-R simple ratchet type.....	35.00	No. 25-R with 24" pilot wheel.....	68.00
No. W platen—plain lever type.....	30.00	No. 25-C combination compound type.....	85.00
No. W with 14" pilot wheel.....	34.00	No. 25-C with 24" pilot wheel.....	93.00
No. W with 24" pilot wheel.....	38.00	No. 31 plain lever type.....	50.00
No. W-R platen—simple ratchet type.....	35.00	No. 31 with 24" pilot wheel.....	58.00
No. 3½ plain lever type.....	48.00	No. 31-R simple ratchet type.....	57.50
No. 3½ with 24" pilot wheel.....	56.00	No. 31-R with 24" pilot wheel.....	65.50
No. 3½-R simple ratchet type.....	58.00	No. 5-R simple ratchet type.....	160.00
No. 3½-R with 24" pilot wheel.....	66.00	No. 5-R with 24" pilot wheel.....	168.00
No. 3½-C combination compound type.....	80.00	No. 5-C combination compound type.....	195.00
No. 3½-C with 24" pilot wheel.....	88.00	No. 5-C with 24" pilot wheel.....	203.00
No. 4 plain lever type.....	70.00	No. 6-R simple ratchet type.....	215.00
No. 4 with 24" pilot wheel.....	78.00	No. 6-R with 24" pilot wheel.....	223.00
No. 4-R simple ratchet type.....	82.50	No. 6-C combination compound type.....	245.00
No. 4-R with 24" pilot wheel.....	90.50	No. 6-C with 24" pilot wheel.....	253.00
No. 4-C combination compound type.....	110.00		
No. 4-C with 24" pilot wheel.....	118.00		
No. 13 armature—plain lever type.....	33.00		
No. 13 with 14" pilot wheel.....	37.00		
No. 13 with 24" pilot wheel.....	41.00		
No. 13-R armature—simple ratchet type.....	38.00		

FAMCO FOOT PRESSES

Floor type:	Price	Floor type—Continued.	Price
No. 6.....	\$37	No. 12.....	\$68
No. 8.....	45	No. 15.....	80
No. 10.....	56	No. 18.....	92

FARREL-BIRMINGHAM CO., ANSONIA, CONN.

SYKES GEAR GENERATING MACHINES AND EQUIPMENT

Size of machine	Domestic weight	Price machine proper	Price supplying and mounting motors		Price full set change gears	Price full set change gears, face plates, etc.
			AC	DC		
No. 1-A.....	Pounds 7,875	\$11,750	\$320	\$520	\$360	\$1,525
No. 2-C.....	13,650	18,850	585	765	510	2,190
No. 3-C.....	16,250	21,500	650	860	510	2,200
No. 4-B.....	36,275	27,000	850	1,310	900	4,200
No. 5-B.....	37,375	29,500	850	1,310	900	4,625

All quotations subject to escalator clauses on labor and material until further notice.
Prices on No. 1-A and No. 2-C machines do not include rim stays.

Prices on No. 3-C, 4-B, and 5-B machines include rim stays.

All prices subject to change without notice.

NOTE.—We also build in addition to the above standard machines a No. 10-B and a No. 12, which are made up on special orders, the price being in accordance with the particular specifications and the circumstances and conditions at the time the quotation is made.

The approximate selling price on the No. 10-B is \$85,000, and on the No. 12 is approximately \$150,000.

THE FEDERAL PRESS CO., ELKHART, IND.

FLYWHEEL TYPE

	0	1	2	3	33	4	5	6	7
Standard floor type presses (f. o. b. Elkhart).....	\$198.00	\$280.00	\$350.00	\$540.00	\$665.00	\$720.00	\$965.00	\$1,550.00	\$1,975.00
Standard bench type.....	168.00			660.00					
Standard horizontal type.....	300.00	395.00	490.00						
EXTRAS									
Special stroke, 1" to standard.	12.00	12.00	12.00	18.00	18.00	24.00	30.00	36.00	40.00
Special stroke, from standard to maximum ram to clear gibs on up stroke.....	23.00	27.50	27.50	30.00	30.00	35.00	38.50	45.00	50.00
Bronze bushings, main bearings and pitman.....	22.00	35.00	45.00	60.00	60.00	80.00	100.00	135.00	165.00
Belt motor, drive. Motor bracket, without belt, motor pulley or motor, and not installed.....	45.00	55.00	55.00	60.00	60.00	75.00	98.00	105.00	110.00
Geared motor, drive. Motor bracket including pinion, gear guard, but not motor installation.....	48.00	60.00	60.00	65.00	65.00	75.00	110.00	115.00	125.00
V-Belt drive, including bracket, V-belts and motor sheaves, but not motor or installation.....	33.00	40.00	40.00	46.50	50.00	55.00	80.00	90.00	95.00
Motor-horsepower and speed.....	1/2-1,200	1-1,200	1 1/2-1,200	2-1,200	2-1,200	3-1,200	3-1,200	5-1,200	7 1/2-1,200
Mounting and wiring.....	\$6.00	\$7.50	\$7.50	\$8.50	\$8.50	\$8.50	\$8.50	12.00	\$12.00
Flywheel guards.....	30.00	35.00	37.50	40.00	40.00	42.50	45.00	47.50	47.50
Brake release.....	15.00	20.00	20.00	25.00	25.00	25.00	30.00	35.00	45.00
Bolster plates, each.....	5.50	8.50	13.50	21.00	42.00	35.00	51.50	95.00	128.00
Tie rods complete with nuts and self-aligning washers.....				17.50	17.50	25.00	30.00	35.00	40.00
Extra for special die space with bed ext.....	25.00	35.00	45.00	55.00		80.00	100.00		
Multiple disk clutch.....	85.00	95.00	100.00	110.00					
Safety slip wheel.....	40.00	45.00	50.00	60.00	60.00	70.00	80.00		

FEDERAL GEARED PRESSES

	2 geared	3 geared	33 geared	4 geared	5 geared	6 geared	7 geared
Standard geared presses (f. o. b. Elkhart, Ind.).....	\$425.00	\$625.00	\$750.00	\$865.00	\$1,208.00	\$1,840.00	\$2,310.00
Motor-horsepower—geared.....	1 1/2-1,800	2-1,800	2-1,800	3-1,800	3-1,800	5-1,800	7 1/2-1,800
Use extras listed above.							

FELLOW GEAR SHAPER CO., SPRINGFIELD, VT.

6 TYPE GEAR SHAPERS		STRAIGHT LINE GEAR GENERATOR	
	Price		Price
No. 61	\$4,795		
No. 64	5,510		\$3,000
No. 612	4,940		
No. 624	5,650		
No. 615 ¹	4,920		
No. 645 ¹	5,635		
6-A TYPE GEAR SHAPERS		THREAD GENERATOR	
No. 61A	\$6,580		
No. 612A	6,710		
No. 64A	7,575		
No. 624A	7,700		
No. 615A	6,750		
No. 645A	7,745		
No. 62A3	6,710		
No. 624A3	7,700		
No. 65A3	6,750		
No. 645A3	7,745		
GEAR SHAPER		ENVELOPING GEAR GENERATOR	
No. 30	\$25,000		
7 TYPE GEAR SHAPERS		GEAR FINISHING	
No. 7	\$3,750		
No. 71	3,750		
No. 72	3,860		
No. 712	3,860		
No. 75 ¹	3,835		
No. 715 ¹	3,835		
No. 725 ¹	3,950		
No. 7125 ¹	3,950		
No. 77	4,350		
No. 775	4,375		
7-A TYPE GEAR SHAPERS		LS-TYPE GEAR LAPPING	
No. 7A	\$4,090		
No. 71A	4,090		
No. 75A ¹	4,180		
No. 715A ¹	4,180		
No. 725A ¹	4,330		
No. 7125A ¹	4,330		
No. 77A	4,695		
No. 775A	4,720		
RACK SHAPER		GEAR BURNISHING	
No. 3-48	\$9,875		
No. 3-60	10,645		
HORIZONTAL GEAR SHAPER		RED LINER	
No. Z-model	\$12,875		
PITCH GEAR SHAPER		INVOLUTE MEASURING	
3 fine	\$2,700		
Price correction advised by manufacturer. Prices differ from those shown in first edition of Prices of Machine Tools.			

FERRACUTE MACHINE COMPANY, BRIDGETON, N. J.

	Price
Capacity, 20 tons	\$6,150
Horizontal toggle and crank, 100-ton capacity	9,525
P5 special punching, 75-ton capacity, streamline special design with steel casting frame, etc.	3,750
Special press C12, open back, 20-ton capacity, press with extra automatic dial feed attachment	7,512
Special page punch, 150-ton capacity, special press with steel casting frame	5,775
Double action drawing DDG4 press, 55-ton capacity, special press with long strokes and accessories	3,300
Double action DD4 press, 55-ton capacity, standard press with roll feed, scrap cutter, motor drive	5,096

RAFTER STEEL PRESS BRAKES

Series	Length	Weight	Price	Series	Length	Weight	Price
	Feet	Pounds			Feet	Pounds	
25	4	12,000	\$3,025	50	10	19,000	\$3,700
25	5	12,650	3,080	50	12	24,000	4,200
25	6	13,300	3,135	50	8	25,000	4,345
25	7	14,400	3,215	50	10	27,500	4,510
25	8	15,500	3,275	50	12	30,000	4,995
25	10	16,500	3,420	50	8	40,000	6,525
25	5	13,750	3,300	50	10	46,000	6,730
50	6	14,500	3,380	50	12	52,000	6,990
50	8	17,000	3,540				

STANDARD THROAT PUNCHING PRESSES

NOT GEARED ONLY

	Price
P1—20-ton pressure—weight 1,820 pounds with bolster	\$485
Bolster	17
Ram knock-out bar type	55
P2—30-ton pressure—weight 2,775 pounds with bolster	555
Bolster	22
Ram knock-out bar type	66
P3—40-ton pressure—weight with bolster 4,020 pounds	710
Bolster	28
Ram knock-out bar type	77
P4—55-ton pressure—weight with bolster 6,130 pounds	945
Bolster	39
Ram knock-out bar type	94
P5—75-ton pressure—weight with bolster 9,625 pounds	1,305
Bolster	55
Ram knock-out bar type	115
P6—105-ton pressure—weight with bolster 14,465 pounds	1,875
Bolster	72
Ram knock-out bar type	145

GEARED ONLY

PG1—20-ton pressure—weight with bolster 1,980 pounds	605
Bolster	17
Ram knock-out bar type	55
PG2—30-ton pressure—weight with bolster 3,000 pounds	695
Bolster	22
Ram knock-out bar type	66
PG3—40-ton pressure—weight with bolster 4,250 pounds	845
Bolster	28
Ram knock-out bar type	77
PG4—55-ton pressure—weight with bolster 6,450 pounds	1,185
Bolster	39
Ram knock-out bar type	94
PG5—75-ton pressure—weight with bolster 10,050 pounds	1,655
Bolster	55
Ram knock-out bar type	115
PG6—105-ton pressure—weight with bolster 15,125 pounds	2,310
Bolster	72
Ram knock-out bar type	145

FERRACUTE MACHINE COMPANY, BRIDGETON, N. J.—Continued

INCLINABLE POWER CUTTING PRESSES, OPEN BACK

STANDARD MACHINE,—FLYWHEEL TYPE

	Price
C11—8-ton pressure—weight with bolster and elevator 1,325 pounds.....	\$515
Bolster.....	10
Ram knock-out.....	25
C12—15-ton pressure—weight with bolster and elevator 2,300 pounds.....	565
Bolster.....	15
Ram knock-out.....	30
C13—25-ton pressure—weight with bolster and elevator 3,000 pounds.....	650
Bolster.....	25
Ram knock-out.....	35
C14—35-ton pressure—weight with bolster and elevator 4,900 pounds.....	820
Bolster.....	35
Ram knock-out.....	40
C15—50-ton pressure—weight with bolster and elevator 8,000 pounds.....	1,055
Bolster.....	55
Ram knock-out.....	44
C16—70-ton pressure—weight with bolster and elevator 11,000 pounds.....	1,400
Bolster.....	74
Ram knock-out.....	55
C17—100-ton pressure—weight with bolster and elevator 16,000 pounds.....	2,005
Bolster.....	120
Ram knock-out.....	64

GEARED TYPE

CG11—8-ton pressure—weight with bolster and elevator 1,425 pounds.....	595
Bolster.....	10
Ram knockout.....	25
CG12—15-ton pressure—weight with bolster and elevator 2,450 pounds.....	655
Bolster.....	15
Ram knockout.....	30
CG13—25-ton pressure—weight with bolster and elevator 3,200 pounds.....	765
Bolster.....	25
Ram knockout.....	35
CG14—35-ton pressure—weight with bolster and elevator 5,200 pounds.....	975
Bolster.....	35
Ram knockout.....	40
CG15—50-ton pressure—weight with bolster and elevator 8,350 pounds.....	1,255
Bolster.....	55
Ram knockout.....	44
CG16—70-ton pressure—weight with bolster and elevator 11,500 pounds.....	1,690
Bolster.....	74
Ram knockout.....	55
C22A—15-ton pressure—approximate weight, 1,600 pounds.....	550
Bolster.....	16
Ram knockout.....	30
C23—25-ton pressure—approximate weight, 2,400 pounds.....	605
Bolster.....	25
Ram knockout.....	35
C23A—25-ton pressure—approximate weight, 2,900 pounds.....	765
Bolster.....	25
Ram knockout.....	35
C24—35-ton pressure—approximate weight, 4,300 pounds.....	875
Bolster.....	35
Ram knockout.....	40
CG17—100-ton pressure—weight with bolster and elevator 16,600 pounds.....	2,360
Bolster.....	120
Ram knockout.....	64

FLYWHEEL TYPE

C21—8-ton pressure—approximate weight, 750 pounds.....	365
Bolster.....	10
Ram knockout.....	25
C21A—8-ton pressure—approximate weight, 1,000 pounds.....	430

FERRACUTE MACHINE COMPANY, BRIDGETON, N. J.—Continued

INCLINABLE POWER CUTTING PRESSES, OPEN BACK—Continued

FLYWHEEL TYPE—continued

	Price
Bolster.....	\$10
Ram knockout.....	25
C22—15-ton pressure—approximate weight, 1,300 pounds.....	490
Bolster.....	16
Ram knockout.....	30
C25—50-ton pressure—approximate weight, 5,300 pounds.....	1,295
Bolster.....	55
Ram knockout.....	45
C25A—50-ton pressure—approximate weight, 10,000 pounds.....	2,010
Bolster.....	55
Ram knockout.....	45

GEARED TYPE

CG21—8-ton pressure—approximate weight, 850 pounds.....	475
Bolster.....	10
Ram knockout.....	25
CG21A—8-ton pressure—approximate weight, 1,100 pounds.....	545
Bolster.....	10
Ram knockout.....	25
CG22—15-ton pressure—approximate weight, 1,450 pounds.....	600
Bolster.....	16
Ram knockout.....	30
CG22A—15-ton pressure—1,750 pounds.....	670
Bolster.....	16
Ram knockout.....	30
CG23—25-ton pressure—approximate weight, 2,600 pounds.....	815
Bolster.....	25
Ram knockout.....	35
CG23A—25-ton pressure—approximate weight 3,100 pounds.....	895
Bolster.....	25
Ram knockout.....	35
CG24—35-ton pressure—weight, 4,550 pounds.....	1,020
Bolster.....	35
Ram knockout.....	40
CG25—50-ton pressure—approximate weight, 5,650 pounds.....	1,510
Bolster.....	55
Ram knockout.....	45
CG25A—50-ton pressure—approximate weight 10,350 pounds.....	2,250
Bolster.....	55
Ram knockout.....	45

STANDARD THROAT ADJUSTABLE BED PUNCH PRESSES

STANDARD MACHINE NONGEARED ONLY

PA1—20-ton pressure—approximate weight 4,000 pounds.....	590
Adjustable bed.....	85
Bolster.....	17
Ram knockout bar type.....	55
PA2—30-ton pressure—approximate weight 5,800 pounds.....	735
Adjustable bed.....	105
Bolster.....	22
Ram knockout bar type.....	66
PA3—40-ton pressure—approximate weight 7,200 pounds.....	920
Adjustable bed.....	140
Bolster.....	28
Ram knockout bar type.....	77
PA4—55-ton pressure—approximate weight 8,600 pounds.....	1,215
Adjustable bed.....	175
Bolster.....	39
Ram knockout bar type.....	94
PA5—75-ton pressure—approximate weight 11,200 pounds.....	1,620
Adjustable bed.....	215

FERRACUTE MACHINE COMPANY, BRIDGETON, N. J.—Continued

STANDARD THROAT ADJUSTABLE BED PUNCH PRESSES—Continued

STANDARD MACHINE NONGEARED ONLY—continued

	Price
Bolster.....	\$55
Ram knockout bar type.....	115
PAG—105-ton pressure—approximate weight 18,300 pounds.....	2, 375
Adjustable bed.....	275
Bolster.....	72
Ram knockout bar type.....	145

GEARED ONLY

PAG1—20-ton pressure—approximate weight 4,000 pounds.....	690
Adjustable bed.....	85
Bolster.....	17
Ram knockout bar type.....	55
PAG2—30-ton pressure—approximate weight 5,800 pounds.....	845
Adjustable bed.....	105
Bolster.....	22
Ram knockout bar type.....	66
PAG3—40-ton pressure—approximate weight 7,200 pounds.....	1, 035
Adjustable bed.....	140
Bolster.....	28
Ram knockout bar type.....	77
PAG4—55-ton pressure—approximate weight 8,600 pounds.....	1, 415
Adjustable bed.....	175
Bolster.....	39
Ram knockout bar type.....	94
PAG5—75-ton pressure—approximate weight 11,200 pounds.....	1, 905
Adjustable bed.....	215
Bolster.....	55
Ram knockout bar type.....	115
PAG6—105-ton pressure—approximate weight 18,300 pounds.....	2, 735
Adjustable bed.....	275
Bolster.....	72
Ram knockout bar type.....	145
PA2 Special, with motor drive, without bed.....	1, 505

DEEP THROAT PUNCH PRESSES 12" TO 20" THROAT

NONGEARED

P21—20-ton pressure—approximate weight 2,750 pounds.....	580
Bolster.....	17
Ram knockout bar type.....	55
P22—30-ton pressure—approximate weight 4,430 pounds.....	730
Bolster.....	22
Ram knockout bar type.....	66
P23—40-ton pressure—approximate weight 6,420 pounds.....	910
Bolster.....	28
Ram knockout bar type.....	77
P24—55-ton pressure—approximate weight 9,570 pounds.....	1, 260
Bolster.....	39
Ram knockout bar type.....	94
P25—75-ton pressure—approximate weight 13,420 pounds.....	1, 795
Bolster.....	55
Ram knockout bar type.....	115
P26—105-ton pressure—approximate weight 20,130 pounds.....	2, 600
Bolster.....	72
Ram knockout bar type.....	145

GEARED

PG21—20-ton pressure—approximate weight 2,900 pounds.....	700
Bolster.....	17
Ram knockout bar type.....	55
PG22—30-ton pressure—approximate weight 4,650 pounds.....	860
Bolster.....	22

FERRACUTE MACHINE COMPANY, BRIDGETON, N. J.—Continued

DEEP THROAT PUNCH PRESSES 12" TO 20" THROAT—Continued

GEARED—continued

	Price
Ram knockout bar type.....	\$66
PG23—40-ton pressure—approximate weight 6,450 pounds.....	1, 055
Bolster.....	28
Ram knockout bar type.....	77
PG24—55-ton pressure—approximate weight 9,900 pounds.....	1, 510
Bolster.....	39
Ram knockout bar type.....	94
PG25—75-ton pressure—approximate weight 13,860 pounds.....	2, 150
Bolster.....	55
Ram knockout bar type.....	115
PG26—105-ton pressure—approximate weight 20,790 pounds.....	3, 035
Bolster.....	72
Ram knockout bar type.....	145

TOP TOGGLE, TIE-ROD CONSTRUCTION, GEARED TYPE EMBOSsing PRESSES

EG151—150-ton pressure—approximate weight 11,500 pounds.....	3, 180
--	--------

These prices without bolster, bar knockout, motor drive, guards or automatic force feed oiling system.

Bolster.....	40
Bar knockout in ram.....	40
EG251—250-ton pressure—approximate weight 19,600 pounds.....	4, 635
Bolster.....	65
Bar knockout in ram.....	45
E401—400-ton pressure—approximate weight 24,000 pounds.....	5, 855
Bolster.....	80
Bar knockout in ram.....	65
E601—600-ton pressure—37,500 pounds.....	8, 055
Bolster.....	105
Bar knockout in ram.....	80
ES01—800-ton pressure—approximate weight 51,000 pounds.....	10, 770
Bolster.....	120
Bar knockout in ram.....	105
E1001—1,000-ton pressure—approximate weight 81,000 pounds.....	14, 605
Bolster.....	150
Bar knockout in ram.....	135

NOTCHING PRESSES FOR LARGE DISCS—15 TON PRESSURE DISC DIAMETERS WITH STANDARD GEARS

C92—approximate weight 2,350 pounds.....	2, 200
Reeves variable speed drive without motor.....	155
C93—approximate weight 2,750 pounds.....	2, 500
Reeves variable speed drive without motor.....	155
C94—approximate weight 3,150 pounds.....	2, 650
Reeves variable speed drive without motor.....	155

EXTERNAL OR INTERNAL NOTCHING PRESSES—7 TON PRESSURE

#C82—approximate weight 1,400 pounds.....	1, 275
External attachment.....	850
Internal attachment.....	1, 000
#C83—approximate weight 1,500 pounds.....	1, 400
External attachment.....	850
Internal attachment.....	1, 000
#C83—Special—approximate weight 1,400 pounds.....	1, 530
External attachment.....	1, 020
Internal attachment.....	1, 200

FERRACUTE MACHINE COMPANY, BRIDGETON, N. J.—Continued

INCLINABLE POWER CUTTING PRESSES OPEN BACK

	Price
Dual C22-C22—20-ton capacity—weight 1,300 pounds	
With friction dial, hopper, motor drive and motor	\$6, 039
Dual C23-C23—30-ton capacity—weight 2,400 pounds	
With friction dial, hopper, motor drive and motor	6, 452
C21—10-ton capacity—weight 750 pounds	
With feed attachment, motor drive and motor	3, 735
C22—20-ton capacity—weight 1,300 pounds	
With feed attachment, motor drive and motor	4, 020

DEEP THROAT PUNCHING PRESSES 12" TO 20" THROAT

P12—30-ton pressure—weight 3,550 pounds	735
Bolster	22
Ram knockout bar type	66
P31—20-ton pressure—weight 3,990 pounds	790
Bolster	17
Ram knockout bar type	55
P33—40-ton pressure—weight 7,125 pounds	1, 635
Bolster	28
Ram knockout bar type	77
P34—55-ton pressure—weight 10,050 pounds	2, 325
Bolster	39
Ram knockout bar type	
PG33—40-ton pressure—weight 7,350 pounds	1, 960
Bolster	28
Ram knockout bar type	77
PG34—55-ton pressure—weight 10,370 pounds	2, 520
Bolster	39
Ram knockout bar type	94
P43—40-ton pressure—weight 10,000 pounds	1, 780
Bolster	28
Ram knockout bar type	77

STANDARD THROAT SPRUE-CUTTING PRESSES

PSG2—30-ton pressure—weight 2,970 pounds	1, 070
Cutters	95
PSG5—75-ton pressure—weight 9,900 pounds	2, 715
Cutters	110
PSG6—105-ton pressure—weight 14,850 pounds	3, 250
Cutters	120

DEEP THROAT SPRUE CUTTING PRESSES 12" TO 20" THROATS

PS12—30-ton pressure—weight 3,520 pounds	1, 035
Cutters	95
PS13—40-ton—weight 4,840 pounds	1, 255
Cutters	95

BENCH AND LEG TYPE INCLINABLE POWER PRESSES

CBO1—2-ton—weight 325 pounds	295
CO1—2-ton—weight 425 pounds	310
CBO2—4-ton—weight 425 pounds	325
CO2—4-ton—weight 550 pounds	355

BENCH AND PEDESTAL TYPE THROATED PUNCHING PRESSES

PBO1—2-ton—weight 520 pounds	295
Bolster	9
PO1—2-ton—weight 710 pounds	315
Bolster	9
PBO2—4-ton—710 pounds	345
Bolster	12
PO2—4-ton—910 pounds	360
Bolster	12

FERRACUTE MACHINE COMPANY, BRIDGETON, N. J.—Continued

BENCH AND PEDESTAL TYPE THROATED PUNCHING PRESSES—Continued

	Price
PBO3—8-ton—weight 1,040 pounds	\$410
Bolster	14
PO3—8-ton—weight 1,260 pounds	435
Bolster	14

STRAIGHT SIDE EMBOSsing PRESSES

E2—30-ton—weight 2,100 pounds	1, 034
Bolster	35
Ram knockout bar type	66
E3—40-ton—weight 3,100 pounds	1, 165
Bolster	45
Ram knockout bar type	77
E4—50-ton—weight 4,500 pounds	1, 310
Bolster	55
Ram knockout bar type	94

ARCH POWER PRESSES

E26—105-ton—12,000 pounds	1, 865
Bolster	100
Ram knockout bar type	145
EG21—20-ton—2,100 pounds	900
Bolster	40
Ram knockout bar type	55
EG24—55-ton—6,300 pounds	1, 750
Bolster	70
Ram knockout bar type	94

BOTTOM TOGGLE EMBOSsing PRESSES

E52—150 ton—weight 5,900 pounds	2, 235
Bolster	45
Bar knockout for the ram	
E53—250-ton—9,700 pounds	2, 535
Bolster	60
Bar knockout for the ram	
EG51—75-ton—4,100 pounds	1, 830
Bolster	35
EG52—150-ton—6,200 pounds	2, 475
Bolster	45
EG53—250-ton—10,000 pounds	2, 885
Bolster	60

ADJUSTABLE BED CUTTING PRESSES

CA11—8-ton—1,800 pounds	950
Adjustable bed	75
Bolster	10
Ram knockout bar type	25
CA13—25-ton—4,150 pounds	1, 270
Adjustable bed	145
Bolster	25
Ram knockout bar type	35
CA14—35-ton—weight 6,650 pounds	1, 340
Adjustable bed	225
Bolster	35
Ram knockout bar type	40
CA15—50-ton—10,200 pounds	1, 635
Adjustable bed	300
Bolster	55
Ram knockout bar type	44
CA16—70-ton—17,300 pounds	2, 665
Adjustable bed	450
Bolster	74
Ram knockout bar type	55

FERRACUTE MACHINE COMPANY, BRIDGETON, N. J.—Continued

STANDARD THROAT DRAWING PRESSES—SOLID FRAME

	Price
DG6—105-ton—weight 19,800 pounds.....	\$4,300
DG7—150-ton—weight 29,700 pounds.....	9,880
Including bolster, motor drive, and guards.	
DG7½—175-ton—weight 38,500 pounds.....	11,625
Including bolster, motor drive, and guards.	

STANDARD THROAT, DOUBLE ACTION DRAWING PRESSES—SOLID FRAME

DD5—75-ton pressure—weight 9,735 pounds.....	\$5,215
Including bolster and elevator.	
DDG5—75-ton pressure—weight 10,175 pounds.....	5,505
Including bolster and elevator.	

STANDARD, STRAIGHT SIDE, DRAWING PRESSES—TIE ROD CONSTRUCTION

DG54—55-ton—weight 8,360 pounds.....	\$2,410
Bolster.....	60
Ram knockout bar type.....	50
DG56—105-ton—18,700 pounds.....	3,810
Bolster.....	100
Ram knockout bar type.....	70

STANDARD, SINGLE CRANK DRAWING PRESSES, TIE ROD CONSTRUCTION—SINGLE GEARED

DG56½—125-ton—weight 23,100 pounds.....	\$6,800
Bolster.....	120
Ram knockout bar type.....	90
DG57—150-ton—weight 25,300 pounds.....	9,420
Bolster.....	140
Ram knockout bar type.....	110
DG58—200-ton—35,200 pounds.....	13,070
Bolster.....	175
Ram knockout bar type.....	140
DPG55 solid—75-ton—weight 13,000 pounds.....	2,579
Bolster.....	70

STANDARD, SINGLE CRANK, DOUBLE ACTION, TOGGLE DRAWING PRESSES—TIE ROD CONSTRUCTION

DD121—125-ton capacity press with bolster, motor drive, and guards—Weight 33,000 pounds.....	\$14,070
DD251—250-ton capacity press with bolster, motor drive, and guards—Weight 68,200 pounds.....	22,150

BLANKING AND CUPPING DOUBLE ACTION PRESSES—SINGLE CRANK—TIE ROD CONSTRUCTION

DD55—75-ton capacity—with roll feed, scrap cutter, V-belt motor drive, etc.....	\$10,600
DDG56—105-ton capacity—with roll feed, scrap cutter, V-belt motor drive, etc.....	12,300
DDG55—75-ton capacity—(solid frame) with sliding feed attachment, motor drive, etc.....	3,871
DD1—15-ton capacity—with roll feed, scrap cutter, motor drive, etc.....	4,285

STANDARD STAMPING PRESSES—SOLID COLUMN

S35—40-ton—weight 4,950 pounds.....	\$1,975
Bolster.....	65
SG15—20-ton—3,400 pounds.....	1,990

FERRACUTE MACHINE COMPANY, BRIDGETON, N. J.—Continued

STANDARD THROAT STAMPING PRESSES

55-TON CAPACITY

	Price
S51 Tie Rod—Weight 9,900 pounds—Incl. Air Ram Balance.....	\$2,800
STG51—Weight 10,340 pounds. Price includes Bolster and Air Ram Balance.....	3,255
S52 Tie Rod—Weight 11,000 pounds. Price includes Bolster and Spring Ram Balance.....	2,865
S53—Weight 12,100 pounds. Price includes Bolster and Spring Ram Balance.....	3,240

75-TON CAPACITY

SG73 Tie Rod—Weight 18,700 pounds. Price includes Bolster and Spring Ram Balance.....	\$7,550
SG77 Tie Rod—Weight 28,600 pounds. Price includes Bolster, Knock-out, and Air Ram Balance.....	11,520

SINGLE ACTION DRAWING PRESSES

E4—55-ton capacity—with 2-tract feeding attachment, hopper and V-belt motor drive.....	\$6,900
DG55—75-ton capacity—with automatic feeding attachment and V-belt motor drive.....	10,945
DG56—105-ton capacity—(12" stroke) with automatic feeding attachment and V-belt motor drive.....	11,875
DG56—105-ton capacity—(16" stroke) with automatic feeding attachment and V-belt motor drive.....	11,925
DG56—105-ton capacity—(20" stroke) with automatic feeding attachment and V-belt motor drive.....	12,075
DG56—105-ton capacity—(24" stroke) with automatic feeding attachment and V-belt motor drive.....	12,410
DG56½—125-ton capacity—(14" stroke) with automatic feeding attachment and V-belt motor drive.....	12,675
DG57—150-ton capacity—(14" stroke) with automatic feeding attachment and V-belt motor drive.....	13,750
DG56½—125-ton capacity—(24" stroke) with automatic feeding attachment and V-belt motor drive.....	13,000
D251—250-ton capacity—(28" stroke) with V-belt motor drive, without attachments.....	13,375
D251—250-ton capacity—(40" stroke) with V-belt motor drive, without attachments.....	14,245
D301—300-ton capacity—(16" stroke) with V-belt motor drive, without attachments.....	14,465
D301—300-ton capacity—(20" stroke) with V-belt motor drive, without attachments.....	14,535
D301—300-ton capacity—(40" stroke) with V-belt motor drive, without attachments.....	15,880
D301—300-ton capacity—(50" stroke) with V-belt motor drive, without attachments.....	16,050
D401—400-ton capacity—(18" stroke) with V-belt motor drive, without attachments.....	18,600
D401—400-ton capacity—(24" stroke) with V-belt motor drive, without attachments.....	18,750

DOUBLE CRANK STAMPING PRESSES

SRG 103—105-ton capacity—with bolster, motor drive, and guards.....	\$3,390
SNG 104—105-ton capacity—with bolster, motor drive and guards.....	4,775
SG 111—105-ton capacity—with bolster, motor drive and guards.....	6,070
SG 113—105-ton capacity—with bolster, motor drive and guards.....	6,180
SG 114—105-ton capacity—with bolster, motor drive and guards.....	6,290
SG 116—105-ton capacity—with bolster, motor drive and guards.....	9,432
SG 121—125-ton capacity—with bolster, motor drive and guards.....	8,860
SGF 121—125-ton capacity—with bolster, motor drive and guards.....	9,970
SGF 151—150-ton capacity—with bolster, motor drive and guards.....	10,856
SG 153—150-ton capacity—with bolster, motor drive and guards.....	9,458
S 153—150-ton capacity—with bolster, motor drive and guards.....	9,700
S 173—175-ton capacity—with bolster, motor drive and guards.....	11,675
S 201—200-ton capacity—with bolster, motor drive and guards.....	13,720
SG 203—200-ton capacity—with bolster, motor drive and guards.....	13,205

FERRACUTE MACHINE COMPANY, BRIDGETON, N. J.—Continued

DOUBLE CRANK STAMPING PRESSES—Continued

	Price
S 251—250-ton capacity—with bolster, motor drive and guards.....	15,585
S 252—250-ton capacity—with bolster, motor drive and guards.....	15,835
S 253—250-ton capacity—with bolster, motor drive and guards.....	17,215
S 254—250-ton capacity—with bolster, motor drive and guards.....	18,460
S 406—400-ton capacity—with bolster, motor drive and guards.....	26,900

SINGLE ACTION DRAWING OR TAPERING PRESSES

DGGF 56—105-ton capacity double geared—(30" stroke), without attachments.....	\$13,745
DGGF 56—105-ton capacity double geared—(40" stroke), without attachments.....	14,490
DGGF 55—75-ton capacity double geared—(30" stroke), without attachments.....	11,700
DGF 55—75-ton capacity single geared—(22" stroke), with air clutch, etc.	7,847

TOP TOGGLE, TIE ROD CONSTRUCTION, INDENTING AND HEADING PRESSES

EG 251—250-ton capacity—with dial feeding attachment, motor drive and guards.....	\$11,950
E 401—400-ton capacity—with dial feeding attachment, motor drive and guards.....	12,500
E 601—600-ton capacity—with dial feeding attachment, motor drive and guards.....	17,750
E 1001—1,000-ton capacity—with dial feeding attachment, motor drive and guards.....	30,000
E 1201—1,200-ton capacity—with dial feeding attachment, motor drive and guards.....	35,400
E 1501—1,500-ton capacity—with dial feeding attachment, motor drive and guards.....	36,875

PRESSES AND MACHINES FOR MUNITION WORK, ETC.

C 12—20-ton capacity, .30 and .45 Cal. Canneluring and Finishing Press with hopper, motor, etc.....	\$6,706
SG 53—55-ton capacity, .30 Cal. Automatic Bullet Assembling Press with hoppers, motor, etc.....	14,550
SG 73—75-ton capacity, .50 Cal. automatic bullet assembling press with hoppers, motor, etc.....	16,600
Pocketing and heading machine—50 ton capacity, .30 cal. with hopper, motor, etc.....	5,450
Pocketing and heading machine—100 ton capacity, .50 cal. with hopper, motor, etc.....	10,307
Automatic straight line loading machine—.50 cal.—with hoppers, etc., but without motor.....	15,750
Automatic straight line priming machine with motor—.50 cal.....	16,250
Tapering press with dial and attachments but without motor 30-ton capacity—.30 caliber.....	9,100
Tapering press with dial and attachments but without motor 75-ton capacity—.50 caliber.....	14,140
Dual presses C24—C24—40-ton capacity—with friction dials, hopper, motor, etc.....	9,000
Dual presses CG24—CG24—40-ton capacity—with friction dials, hoppers, motor, etc.....	9,500
Dual presses CG25—CG25—55-ton capacity—with friction dials, hoppers, motor, etc.....	11,065
Dual presses CG16—CG16—75-ton capacity—with friction dials, hopper, motor, etc.....	12,815
CG—24—40-ton capacity—with dial feeding attachment, etc., but without motor.....	8,250
DG—5—75-ton capacity—with dial feeding attachment, etc., but without motor.....	10,250
CG—25—55-ton capacity—with dial feeding attachment, etc., but without motor.....	8,550
.50 caliber trimming lathe without motor but with hopper.....	4,400
SG 71—75-ton capacity—automatic, 5-Station drawing press with hopper, etc., but without motor.....	14,850
.50 caliber jacket, trimming lathe with hopper.....	3,600

FERRACUTE MACHINE COMPANY, BRIDGETON, N. J.—Continued

MULTICOLUMN PRESSES

CMG 63—150-ton capacity—with bolster, motor drive and guards.....	Price \$15,970
---	-------------------

FISCHER MACHINE COMPANY, PHILADELPHIA, PA.

Fischer oil groover No. 1 (motor not included, 2 hp./600–1,200 r. p. m.)....	\$875
Relieving and taper attachment No. 1—extra.....	200
Relieving and taper attachment No. 1 when ordered with machine.....	175
Relieving attachment only, No. 1, extra.....	175
Relieving attachment only, No. 1, when ordered with machine.....	150
Air chuck for O. G. No. 1, attached, extra.....	198
Three-jaw universal chuck (6 inches) for O. G. No. 1, extra.....	42
High speed chucking equipment (relieving attachment), extra as above.....	250
High speed chucking equipment, collets in sixteenths up to 2 inches each.....	4
Tail stock No. 1.....	85
Arrange for motor drive, including belts, geared, motor bracket and wiring if motor is supplied.....	40
Boxed for export.....	50
Fischer oil groover No. 2 arranged for motor drive, including belts, guard, etc.....	2,600
(Motor not included. 3 hp./600 to 900 r. p. m., variable speed.).....	400
Relieving and taper attachment No. 2.....	168
Three-jaws (13¼ inches), combination chuck.....	170
Tail stock.....	60
8-inch steady rest.....	25
18-inch face plate.....	50
Boxed for export.....	
Prices are f. o. b. Philadelphia, Pa.	

FITCHBURG GRINDING MACHINE CORPORATION, FITCHBURG, MASS

PRESENT PRICES

12' x 36" bath universal grinder.....	\$4,880
6" x 18" plain cylindrical grinder.....	3,840
6" x 32" plain cylindrical grinder.....	4,170
14" x 20" spline and gear grinder (base price only).....	5,820
14" x 36" spline and gear grinder (base price only).....	6,860
14" x 60" spline and gear grinder (base price only).....	7,920

OBSOLETE MACHINES (LAST PRICE)

10" x 25" bath Universal (overhead-drive).....	3,440
12" x 36" bath Universal (overhead-drive).....	3,610
6" x 20" plain grinder.....	2,920
8" x 20" plain grinder.....	3,260
8" x 36" plain grinder.....	3,420

THE FOOTE-BURT CO., CLEVELAND, OHIO

SENSITIVE DRILLING MACHINE

	Weight	Belt drive	Motor drive		Weight	Belt drive	Motor drive
DE type—Floor type:	Pounds			BW or No. 2, 8" overhang:	Pounds		
1 spindle.....	410	\$345	\$405	1 spindle.....	1,050	\$470	\$510
2 spindle.....	590	605	725	2 spindle.....	1,450	770	880
3 spindle.....	850	865	1,045	3 spindle.....	1,850	1,100	1,265
4 spindle.....	1,140	1,120	1,365	4 spindle.....	2,500	1,435	1,655
6 spindle.....	1,975	1,650	2,015	6 spindle.....	3,700	2,105	2,435
DE type—Bench type:				BX or No. 2, 12" overhang:			
1 spindle.....	195	290	350	1 spindle.....	1,175	405	540
2 spindle.....	350	525	645	2 spindle.....	1,610	835	945
3 spindle.....	520	760	940	3 spindle.....	2,080	1,185	1,350
4 spindle.....	660	980	1,220	4 spindle.....	2,600	1,540	1,760
6 spindle.....	1,030	1,435	1,800	6 spindle.....	3,800	2,240	2,570
BK type:				No. 3 machine:			
1 spindle.....	525	360	425	1 spindle on 30" base.....	2,200	720	-----
2 spindle.....	800	580	710	2 spindle on 30" base.....	2,900	1,325	-----
3 spindle.....	1,075	780	980	1 spindle on 15" base.....	1,700	600	-----
4 spindle.....	1,350	1,035	1,320				
6 spindle.....	1,000	1,580	1,975				
2 spindle on 3 Sp. Base.....	900	625	760				

INDEPENDENT FEED DRILLING MACHINES

Number	Type	Capacity	Weight	Present price
1.....	4-spindle.....	3/4"	Pounds 2,500	\$2,400
1 1/2.....	5-spindle.....	3/4"	4,500	3,980
2.....	4-spindle.....	1 1/4"	7,000	4,640
3.....	6-spindle.....	1 3/4"	12,000	7,815
4.....	4-spindle.....	2"	10,000	6,350
5.....	6-spindle.....	2"	14,000	8,975
4 1/2.....	4-spindle.....	3"	12,000	8,470
5 1/2.....	6-spindle.....	3"	17,000	11,700
17.....	2-spindle.....	2"	8,600	4,265

HIGH-DUTY DRILLING MACHINES

21 1/4.....	Manufacturing.....	1 1/2"	1,750	\$1,470
22 1/4.....	do.....	2 1/2"	3,575	2,220
23 1/4.....	do.....	3 1/2"	5,500	3,025
23.....	Gear box.....	1 1/2"	1,875	1,775
23.....	Manufacturing.....	1 1/2"	1,750	1,380
24.....	Gear box.....	2"	2,650	2,510
24.....	Manufacturing.....	2"	2,575	2,085
25.....	24" gear box.....	3"	3,100	2,715
25.....	36" gear box.....	3"	3,400	3,140

HAMMOND RADIAL DRILLS

TYPE C & D ON COLUMN AND BASE, FRICTION HEAD FOR DRILLING AND TAPPING

SPECIFICATIONS

	Type C	Type D
Vertical adjustment of saddle.....	24"	24"
Traverse of spindle.....	8"	8"
Diameter of spindle.....	1"	1 1/4"
Hole in spindle.....	No. 2 Morse taper.....	No. 3 Morse taper.....
Diameter of friction cone.....	9"	9"
Spindle speeds.....	390-625-1000.....	300-485-775.....
Working surface of base.....	34" x 48"	34" x 48"
Shipping weight with table.....	3,000 pounds.....	3,000 pounds.....
Shipping weight without table.....	2,500 pounds.....	2,500 pounds.....
Capacity in steel.....	3/8" drill, 1/2" taper.....	3/4" drill, 3/4" taper.....
Capacity in cast iron.....	3/4" drill, 3/8" taper.....	1" drill, 3/4" taper.....

PRICES

	Type C	Type D
On column and base complete with motor and starter.....	\$1,210	\$1,295
On column and base arranged for, but not including motor.....	1,135	1,220
On column and base arranged for, belt drive.....	1,135	1,220
20" x 30" box type work table 22" high.....	95	95

THE FOOTE-BURT CO., CLEVELAND, OHIO—Continued

TYPE G RADIAL, 6-SPEED BALL-BEARING GEARED HEAD FOR DRILLING AND TAPPING AUTOMATIC (AND HAND) REVERSAL

SPECIFICATIONS

Vertical adjustment of saddle 24"	Standard hole in spindle, No. 3 Morse Taper.
Traverse of spindle 7"	Capacity in steel, 1 1/2" drill, 7/8" tap.
Motor, 1 h.p. 900/1800 r. p. m.	Capacity in cast-iron, 1 1/4" drill, 1" tap.
Spindle speeds, 95, 190, 380, 570, 760, 1140 r. p. m.	
Diameter splined end of spindle, 1 1/2"	

Working surface of base, column and base type.....	34" x 48"
Shipping weight, column and base type, with work table.....	3,000 lbs.
Shipping weight, column and base type without work table.....	2,500 lbs.
Shipping weight, post or wall type.....	950 lbs.

PRICES

	Column and base type	Post or wall type
Complete with electrical equipment power elevating mechanism and controls.....	\$1,720	
Arranged for hand elevation, complete otherwise.....	1,485	\$1,255
Extra for 20" x 30" x 22" box type work table.....	95	

HAMMOND NO. 2 SURFACE GRINDER

DIRECT INBUILT MOTOR SPINDLE, HAND FEED

SPECIFICATIONS

Longitudinal travel, 18"	Working surface of table, 6" x 18"
Transverse travel, 6 1/2"	Spindle speed, 3,450 r. p. m.
Vertical travel, 10 3/4"	Transverse feed, .250" per rev.
Standard wheel 7" x 1 1/2" x 1 1/4" hole	Vertical feed, .050" per rev.
Distance 7" wheel to table, 9 1/2" maximum	Shipping weight, 1,900 pounds.

PRICES

No. 2 grinder arranged for but not including spindle.....	\$1,000
Extra for spindle.....	225
Extra for motor-driven exhaust attachment complete.....	135

THE FOSDICK MACHINE TOOL CO., CINCINNATI, OHIO

UPRIGHT DRILLS

	Weight, crated for shipment	Price
21" round-column upright drill.....	Pounds 2,800	\$1,600
21" box-column upright drill.....	3,000	1,650
30" round-column upright drill.....	4,000	2,300
30" box-column upright drill.....	4,350	2,350

THE FOSDICK MACHINE TOOL CO., CINCINNATI, OHIO—Continued
FOSDICK ECONOMAX HYDRAULIC RADIAL DRILLS

Size	Shipping weight	Price
	<i>Pounds</i>	
3-foot 11-inch column.....	7,650	\$6,215
4-foot 11-inch column.....	7,800	6,515
4-foot 13-inch column.....	11,800	7,000
4-foot 15-inch column.....	13,800	8,000
5-foot 13-inch column.....	12,100	7,325
5-foot 15-inch column.....	15,300	8,350
5-foot 17-inch column.....	18,800	9,575
6-foot 15-inch column.....	16,850	8,700
6-foot 17-inch column.....	20,300	9,950
6-foot 19-inch column.....	22,400	11,300
7-foot 17-inch column.....	21,850	10,325
7-foot 19-inch column.....	24,000	11,700
8-foot 19-inch column.....	25,500	12,100

UPRIGHT DRILLS

25" round column.....	3,200	\$1,800
25" box column.....	3,500	1,850

(Above weights cover the machines crated for shipment.)

JIG BORERS

No. 30 table size 18" x 36".....	16,700	\$5,000
No. 30-A table size 22" x 44".....	17,600	6,000

¹ Crated for shipment.

NO. 1 AND NO. 2 SUPERSPEED SENSITIVE DRILLS

No. 1 bench type	Weight	Price	No. 2 Floor type	Weight	Price
	<i>Pounds</i>			<i>Pounds</i>	
1-spindle.....	360	\$305	1-spindle.....	700	\$365
2-spindle.....	700	560	2-spindle.....	875	635
3-spindle.....	850	795	3-spindle.....	1,360	905
4-spindle.....	1,100	1,025	4-spindle.....	1,900	1,200
6-spindle.....		1,500	6-spindle.....	2,550	1,725

NO. 4 AND NO. 5 HIGH-SPEED BALL-BEARING SENSITIVE DRILLS

[No. 4, 3/4" capacity; No. 5, 1 1/4" capacity. 12" overhang]

No. 4 sensitive	Weight	Price	No. 5 sensitive	Weight	Price
	<i>Pounds</i>			<i>Pounds</i>	
1-spindle.....	1,400	\$600	1-spindle.....	1,750	\$760
2-spindle.....	2,100	1,000	2-spindle.....	3,150	1,345
3-spindle.....	2,900	1,420	3-spindle.....	4,100	1,920
4-spindle.....	4,300	1,850	4-spindle.....	5,800	2,595
5-spindle.....	4,750	2,155	5-spindle.....		
6-spindle.....	5,400	2,690	6-spindle.....	8,500	3,790

NO. 4-BM AND NO. 5-BM HIGH-SPEED BALL-BEARING MOTOR-DRIVEN SENSITIVE DRILLS

[No. 4-BM, 3/4" capacity; No. 5-BM, 1 1/4" capacity. 12" overhang]

No. 4-BM	Weight	Price	No. 5-BM	Weight	Price
	<i>Pounds</i>			<i>Pounds</i>	
1-spindle.....	1,650	\$895	1-spindle.....	2,150	\$1,065
2-spindle.....	2,400	1,625	2-spindle.....	4,200	1,990
3-spindle.....	3,900	2,360	3-spindle.....	6,250	2,910
4-spindle.....	5,400	3,080	4-spindle.....	7,900	3,835
5-spindle.....	7,000	3,805	5-spindle.....		
6-spindle.....	8,000	4,535	6-spindle.....	10,500	5,680

FOX GRINDERS, INC., PITTSBURGH, PA.
SWING FRAME GRINDERS

Size carrying wheels without motors			With motor	
No. 8.....	16 x 2 or 2 1/4 x 6.....	\$500	7 1/4 H. P.—2 V-Belts.....	\$640
No. 6.....	20 x 2 or 2 1/2 x 6.....	590	10 H. P.—3 V-Belts.....	762
No. 4.....	24 x 3 or 12".....	777	15 H. P.—5 V-Belts.....	970

STAND GRINDERS

No. 5.....	24 x 3 x 12.....	\$578	10 H. P.—4 V-Belts.....	\$720
No. 7.....	30 x 4 x 12.....	756	15 H. P.—4 V-Belts.....	930

All motors are totally enclosed, fan-cooled ball-bearing type. Motor prices include starting equipment. Prices are based on using 220/440-volt 50-cycle, 3-phase current.

FRAY MACHINE TOOL CO., GLENDALE, CALIF.

Fray No. 7 all-angle milling machine. Price.....	\$1,475
Price does not include head or milling attachment. Approximate weight of machine 1,500 lbs.	
Fray all-angle milling attachment type A. Weight 90 lbs. Price.....	195
Equipped with back gear unit. Price.....	245
Fray all-angle milling attachment type B. Weight 105 lbs. Price.....	245
Equipped with back gear unit. Price.....	295
Fray all-angle milling attachment type C. Weight 115 lbs. Price.....	345
Equipped with back gear unit. Price.....	395

THE FREW MACHINE CO., PHILADELPHIA, PA.¹

NO. 1 AUTOMATIC TAPPING MACHINES

Belt drive with plain countershaft.....	\$530
Vee belt motor drive, without motor, but with motor base and motor pulley:	
Single spindle speed.....	545
Three spindle speeds.....	575
Mounting and wiring customer's motor and switch.....	20
Foot treadle.....	40

NO. 2 AUTOMATIC TAPPING MACHINES

Single speed, belt drive with countershaft.....	\$840
Two speeds, belt drive with countershaft.....	920
Four speeds, gear box, motor drive but without motor.....	1,210
Mounting and wiring customer's motor and switch.....	20
Oil pump and piping for tappers.....	95

PROFILING MACHINES

Size	Single spindle	Double spindle
No. 4, belt drive.....	\$2,150	\$2,450
No. 5, belt drive.....	2,800	3,450
No. 5A, belt drive.....	2,900	3,550
No. 6, belt drive.....	3,550	4,050
No. 6A, belt drive.....	3,850	4,450
Motor drive parts but without motor.....		155
Pump and piping.....		125
Mounting and wiring customer's motor and switch.....		25
No. 3 motor on spindle drive, including motor and switch.....		2,000

¹ Prices corrected upon advice of manufacturer. They differ from those shown in first edition of Prices of New Machine Tools.

THE FREW MACHINE CO., PHILADELPHIA, PA.—Continued

CAM MILLING MACHINES

6" cam cutter, no fixtures, belt drive with countershaft.....	\$1, 105
6" flat cam fixture for above.....	500
6" cylinder cam fixture for above.....	590
12" cam cutter, no fixtures, belt drive.....	(2)
12" flat cam fixture for above.....	(2)
12" cylinder cam fixture for above.....	(2)
24" and 36" cam cutters.....	(2)
Pump and piping.....	95
12" cam cutting attachment for standard milling machines, power feed.....	750

NO. 3 CHUCKING LATHE

No. 3, Chucking Lathe, air operated, with 6" chuck and cylinder, plain slide, belt drive.....	\$1, 800
Pump and piping.....	100

HAND MILLING MACHINES

No. 2, Hand Miller, belt drive, four step cone, countershaft, bench type..	\$630
No. 2, Vee-Driv Hand Miller, bench type, with ¼ hp. motor and switch, three spindle speeds:	
3,600—2,700—1,800 r. p. m.....	690
1,800—1,350—900 r. p. m.....	670
1,200—900—600 r. p. m.....	680
900—675—450 r. p. m.....	690
No. 2, Vee-Driv Hand Miller, bench type but without motor or switch..	600
Mounting customer's motor and switch.....	15
Extras for No. 2 millers:	
Screw feed to table instead of lever feed.....	30
Screw feed to knee instead of lever feed.....	30
Screw and lever feed to table.....	60
Floor column base.....	50
4" plain vise.....	32
Arbors, 1" or ¾" diameter.....	30
Oil pump and piping.....	75
No. 3, Hand Miller, belt drive with countershaft.....	690
No. 3, Hand Miller, motor drive but without motor.....	875
Mounting and wiring customer's motor and switches.....	50
5" plain vise.....	44
Arbor, 1".....	36
Oil pump and piping.....	100

DUPLEX HORIZONTAL DRILLS

No. 0, Duplex Drill, hand screw feed, with drum countershaft.....	\$800
No. 0, Duplex Drill, lever feed, drum countershaft.....	760

Other types and sizes of duplex drills special.

All prices which include motors and switches are based on 220/440 volt, 50 or 60 cycle, 2- or 3-phase currents.

¹ Prices on application.

GALLMEYER & LIVINGSTON CO., GRAND RAPIDS, MICH.

GRAND RAPIDS DRILL GRINDERS

[Prices, net crated f. o. b. Grand Rapids—motor driven ¹—complete with 50 or 60 cycle motor and switch ¹]

DOUBLE HOLDER TYPES—WET AND DRY

Style	Capacity	Net weight	Crated weight	Net price
		Pounds	Pounds	
B-6-A.....	No. 52—1½"	640	740	\$543
C-6-A.....	No. 52—2½"	650	750	545
C-6-B.....	¾—2½"	660	760	547
D-6-B.....	¾—4"	735	845	600
D-6-A.....	No. 52—4"	725	835	598
E-6-B.....	¾—5"	800	880	665

SINGLE HOLDER TYPES—WET

Style	Capacity	Net weight	Crated weight	Net price
		Pounds	Pounds	
A-6-T.....	No. 52—¾"	605	700	\$515
B-6-T.....	¾—1½"	610	710	517
C-6-T.....	¾—2½"	630	750	520
D-6-T.....	¾—4"	700	810	555

SINGLE HOLDER TYPES—DRY

Style	Capacity	Net weight	Crated weight	Net price
		Pounds	Pounds	
A-5-T.....	No. 52—¾"	480	580	\$455
B-5-T.....	¾—1½"	490	590	457
C-5-T.....	¾—2½"	500	600	460
A-7-T.....	No. 52—¾"	270	370	332
B-7-T.....	No. ½—1½"	275	375	325
00.....	No. 60—¾"	225	325	275

BENCH TYPE

Style	Capacity	Net weight	Crated weight	Net price
		Pounds	Pounds	
A-7-T.....	No. 52—¾"	120	145	\$312
B-7-T.....	¾—1½"	125	150	315
00.....	No. 60—¾"	100	125	255

¹ Extra for direct current equipment, \$50.

GRAND RAPIDS TAP GRINDERS

[Motor driven ¹—complete with 50 or 60 cycle motor and switch ¹]

No.	Type	Capacity	Net weight	Crated weight	Net price
			Pounds	Pounds	
1M	Single holder.....	¹ No. 6 to 1½"	390	465	\$400
2M	Single holder.....	¾" to 3"	400	475	425
12M	Double holder.....	No. 6 to 3"	425	500	495
	Extra for attachment on No. 12 machine for bent shank taps.....				30

¹ Extra for direct current equipment, \$35.

GALLMEYER & LIVINGSTON CO., GRAND RAPIDS, MICH.—Continued

GRAND RAPIDS COMBINATION TAP AND DRILL GRINDERS

[Motor driven¹—complete with 50 or 60 cycle motor and switch¹]

No. and type	Capacity	Net weight	Crated weight	Net price
		Pounds	Pounds	
10-A—taps No. 6 to 1½", drills No. 52 to ¾"		500	500	\$493
10-B—taps No. 6 to 1½", drills ½" to 1½"		510	510	495
20-B—taps ¾" to 3", drills ¼" to 1½"		550	550	510
20-C—taps ¾" to 3", drills ¼" to 2½"		560	560	513

UNIVERSAL CUTTER AND TOOL GRINDERS

Plain cutter and reamer grinder, motor driven, hand feed, equipped with headstock bored to take No. 12 B & S and standard milling machine taper with reducing collets to take No. 10, No. 9, and No. 7 B & S taper hole and center; tail stock; center gauge; wheel flanges; wheel guards; tooth rests; wrenches, quick action lever handle; including standard 50 or 60 cycle electrical equipment and 6 grind wheels:

No. 3	Price
No. 4	\$1,250
No. 5	1,350
Extra for power feed proving 6 table speeds on No. 4 and No. 5 machines	1,500
Extra for wet grinding attachment on No. 4 and No. 5 machines	175
	85

Complete universal cutter and tool grinder, motor driven, hand feed with attachments as listed with plain machine and cylindrical grinding attachment with ¼ hp., 50 or 60 cycle motor; internal grinding attachment; surface grinding attachment; gear cutter grinding attachment:

No. 3	Price
No. 4	1,575
No. 5	1,675
Extra for power feed providing 6 table speeds on No. 4 and No. 5 machines	1,825
Extra for wet grinding attachment on No. 4 and No. 5 machines	175
	85

Prices of attachments included in prices of complete universal machines which may be deducted from total price if attachment not desired. These prices do not apply to sale of individual attachments purchased at a later date.

Cylindrical grinding attachment including 4" 3-jaw chuck with taper shank and extra set of jaws, dogs and ¼ hp., 50- or 60-cycle motor	Price
Internal grinding attachment including pulley, belt, T-slot bolts, and three wheels (requires cylindrical grinding attachment)	\$140.00
Surface grinding attachment including universal vise with extra V-jaw, center holder, rods, and extension spindle	65.00
Gear cutter grinding attachment	75.00
	45.00

EXTRAS

Extra for steady rest	25.00
Extra for metal cabinet for attachments	35.00
Extra for face plate with taper shank and 2 expansion collets	15.00
Extra for deep hole internal attachment on no. 5 machine	85.00
Extra for 10" chuck on no. 5 machine	40.00
Extra for universal attachment	125.00

Plain cutter and tool grinder, no. 1½ machine, motor driven, equipped with headstock bored to take no. 12 B & S taper with reducing collets to take no. 10, no. 9, and no. 7 B & S taper hole and center; tailstock with center; wheel flanges; wheel guards; tooth rests; tools—quick-action lever handle; wrenches, five grinding wheels and standard 50- or 60-cycle electric equipment:

No. 1½	687.50
No. 2	622.50

GALLMEYER & LIVINGSTON CO., GRAND RAPIDS, MICH.—Continued

EXTRAS—continued

Universal cutter and tool grinder, complete no. 1½ motor-driven universal cutter and tool grinder, includes attachments as listed with plain machines and cylindrical grinding attachment, motor headstock with ¼ hp. 50- or 60-cycle motor; surface grinding attachment; gear cutter grinding attachment, and internal grinding attachment:

No. 1½	\$925.00
No. 2	860.00

[Prices—net crated f. o. b. Grand Rapids]

Prices of attachments included in price of complete no. 1½ machine, which may be deducted from total price if attachment not desired. These prices do not apply to sale of individual attachments.

Cylindrical grinding attachment including 4" 3-jaw chuck with taper shank and extra set of jaws, dogs, and motor headstock with 50- or 60-cycle motor	\$132.50
Internal grinding attachment including pulley, belt, T-slot bolts, and three wheels (requires cylindrical grinding attachment)	25.00
Surface grinding vise	35.00
Gear cutter grinding attachment	45.00

TOOL AND CUTTER GRINDERS

SPECIFICATIONS

	No. 1½	No. 2	No. 4	No. 5
Size of table	5 x 26	5 x 26	5½ x 42	6 x 50
Longitudinal travel	16	16	24	32
Transverse movement	8	7	9	10
Vertical movement	6¾	6¾	10¾	10¾
Maximum swing	9½ x 20	9½ x 20	10½ x 32	10½ x 42
Capacity for face milling cutters	12	12	18	24
Weight complete, net	785	670	1,850	2,200
Weight complete, crated	875	790	2,000	2,400
Weight complete, boxed	1,025	840	2,200	2,600

HAND FEED SURFACE GRINDERS

		Price of machine	Chuck price
No. 0	5" x 12" working surface of table—motor driven with motor	\$425	\$100
No. 15	6" x 18" working surface of table—motor driven with motor	685	115
No. 18	6" x 18" working surface of table—belt driven with counter shaft	655	115
No. 18	10" x 18" working surface of table—motor driven with motor	\$875	\$175
No. 18	10" x 18" working surface of table—belt driven with counter shaft	845	175
No. 25	(Hand feed)—6" x 18" working surface of table—motor driven with motor	(1)	(1)
	Extra for wet grinding equipment for nos. 15 or 18 machines	165	
	Extra for 3 spindle speeds on nos. 15 or 18 machines	20	

¹ Temporarily discontinued.

NOTE.—Prices on motor driven machines with motor as listed cover suitable 50 or 60 cycle AC motors and control, wired ready to attach to line wires. Prices on machines with direct current or odd frequency motors on application.

HYDRAULIC FEED SURFACE GRINDERS

No.	Working surface of table	Capacity under standard wheel	Wheel size	Net weight	Machine price	Chuck price mounted
	Inches	Inches	Inches	Pounds		
65	12 x 48	17	12 x 1 x 3	8,300	\$4,125	\$525
55	12 x 36	17	12 x 1 x 3	7,300	3,675	400
45	12 x 24	17	12 x 1 x 3	5,700	3,200	275
38	8 x 36	12	10 x 1 x 2	4,700	2,625	250
35	8 x 24	12	10 x 1 x 2	4,300	2,200	160
25	6 x 18	10	8 x ½ x 1½	2,300	1,540	115

Above prices cover motor driven machines complete with standard 50 or 60 cycle alternating current motors and controls, wired ready to attach to line wires.

Prices on machines equipped with direct current or odd-frequency motors on application.

515667—43—15

GALLMEYER & LIVINGSTON CO., GRAND RAPIDS, MICH.—Continued

	Price
Extra for portable self-contained motor-driven coolant system on above machines.....	\$165.00
Extra for dust-collecting system on above machines.....	160.00
Extra for handwheel operation of longitudinal table movement on nos. 35, 45, 55 and 65.....	85.00
Extra for Bijur one-shot lubricating system on no. 25 machines.....	60.00
Extra for patented vertical movement on no. 25 machine.....	75.00
Extra for power rapid vertical travel of wheel head on no. 45, regular equipment on nos. 65 and 55.....	125.00
Extra for raised column and 20" diameter wheel on nos. 45, 55, and 65.....	375.00
Extra for handling and mounting 8" x 24" or smaller magnetic chuck if furnished by customer.....	17.50
Larger than 8" x 24".....	25.00
Extra for truing device built into wheel hood with diamond.....	125.00
Extra for radius and angular truing device with diamond.....	220.00
Extra for radius truing device with diamond for both convex and concave radii.....	235.00

SURFACE GRINDER

MODEL A CROSS TRAVELING HEAD TYPE

Prices covering Model A machines include portable motor driven coolant system, standard 50 or 60 cycle alternating current motors with controls, and power rapid vertical travel of wheel head. Prices on direct current and odd frequency equipment on application.

Working surface of table (inches)	Capacity under standard wheel	Wheel size	Net weight	Code	Machine price	Chuck price, mounted
	Inches	Inches	Pounds			
12 x 36.....	17	14 x 3 x 5	9,350		\$4,875	\$400
12 x 48.....	17	14 x 3 x 5	10,650		5,400	525
12 x 60.....	17	14 x 3 x 5	11,850		5,800	650
12 x 72.....	17	14 x 3 x 5	14,500		6,200	775
14 x 36.....	17	14 x 3 x 5	9,850		5,475	450
14 x 48.....	17	14 x 3 x 5	11,100		6,200	600
14 x 60.....	17	14 x 3 x 5	12,250		6,800	750
14 x 72.....	17	14 x 3 x 5	15,250		7,400	900

Above machines can be equipped with 20" x 3" x 8" grinding wheel with 15-horsepower motor for driving wheel spindle and with capacity of 16" under the full 20" diameter wheel at an additional charge of \$200.

MODEL F PRODUCTION TYPE

Prices quoted cover standard machines complete with motor driven self-contained coolant system, standard 50 or 60 cycle alternating current motors and controls and power rapid vertical travel of wheel head. Prices on machines with odd frequency and direct current motors will be furnished on request.

MODEL F PRODUCTION TYPE

Working surface of table (inches)	Capacity under standard wheel	Wheel size	Net weight	Code	Machine price	Chuck price, mounted
	Inches	Inches	Pounds			
12 x 36.....	16	14 x 3 x 5	12,500		\$6,100	\$400
12 x 48.....	16	14 x 3 x 5	14,000		6,500	525
12 x 60.....	16	14 x 3 x 5	15,500		6,900	650
12 x 72.....	16	14 x 3 x 5	17,000		7,450	775
14 x 36.....	16	14 x 3 x 5	13,500		6,750	450
14 x 48.....	16	14 x 3 x 5	15,000		7,200	600
14 x 60.....	16	14 x 3 x 5	16,500		7,650	750
14 x 72.....	16	14 x 3 x 5	18,000		8,300	900
16 x 48.....	17	20 x 4 x 10	22,500		8,800	700
16 x 60.....	17	20 x 4 x 10	23,500		9,250	825
16 x 72.....	17	20 x 4 x 10	24,500		9,700	1,050
18 x 48.....	17	20 x 4 x 10	23,000		9,100	825
18 x 60.....	17	20 x 4 x 10	24,500		9,550	950
18 x 72.....	17	20 x 4 x 10	26,000		10,000	1,200
20 x 48.....	25	20 x 6 x 10	24,000		9,600	925
20 x 60.....	25	20 x 6 x 10	25,500		10,050	1,125
20 x 72.....	25	20 x 6 x 10	27,000		10,500	1,400

Extra for automatic down feed (page 12).....	\$525
Extra for motor driven dust collector unit.....	250
Extra for diamond truing device with diamond (page 12).....	185
Extra for two spindle speeds 12" and 14" wide machines.....	400
Extra for two spindle speeds 16" and 18" wide machines.....	425
Extra for two spindle speeds 20" and 24" wide machines.....	475

GARDNER MACHINE CO., BELOIT, WIS.

SINGLE SPINDLE DISK GRINDERS

[With 1 plain and 1 universal table, 2 steel disk wheels. Motor-driven machines include Standard A. C. motors]

Size	Drive	Weight	Price
		Pounds	
No. 1, 12".....	Belt.....	640	\$423.00
No. 1, 12".....	M. D.....	1,125	671.00
No. 2, 18".....	Belt.....	1,400	699.00
No. 2, 18".....	M. D.....	1,820	903.00
No. 4, 20".....	Belt.....	2,500	758.00
No. 4, 20".....	M. D.....	2,640	1,143.00
No. 5, 18".....	M. D.....	1,600	618.00
No. 5, 18".....	Belt.....	2,600	857.00
No. 6, 26".....	M. D.....	2,775	1,387.00
No. 7 1/2, 30".....	Belt.....	3,350	1,043.00
No. 7 1/2, 26".....	M. D.....	3,150	1,614.00

DOUBLE SPINDLE DISK GRINDERS

Size	Drive	Weight	Price
No. 14, 20".....	Belt.....	3,100	\$1,333.00
No. 14, 20".....	M. D.....	3,100	1,558.00

VERTICAL SPINDLE HORIZONTAL DISK GRINDERS

Size	Drive	Weight	Price
No. 88, 18".....	Vert. motor.....	1,800	\$561.50
No. 86, 30".....	Belt.....	1,700	912.00
No. 86, 30".....	Vert. motor.....	1,800	1,017.00
No. 24, 53".....	do.....	4,700	1,945.00
No. 124, 53".....	No motor.....	6,350	1,670.00
No. 79, 72".....	Vert. motor.....	10,000	3,275.00
No. 179, 72".....	No motor.....	11,500	2,525.00

THE GEAR GRINDING MACHINE CO., DETROIT, MICH.

LIST PRICE SCHEDULE

Price f. o. b.

Types of gear grinding machines (involute and straight sided keys):	Detroit
GG-10 (external) 9" I. H., 10" diameter work, 16" between centers.....	\$6,850
GG-19 (external) 9" I. H., 10" diameter work, 24" between centers.....	7,000
GG-22 (external) 90" Index Worm Wheel, 24" to 72" diameter work, 12" face.....	61,300
GG-23 (external) 28" Index Worm Wheel, 2 1/2" to 24" diameter work, 24" face.....	17,800
GG-23-A Special (external) 38" Index Worm Wheel, 6 1/4" to 33" diameter work, 24" face.....	20,650
GG-24 (external) 16" I. H., 2 1/2" to 16" diameter work, 24" face.....	15,650
GG-27 (external rack) 18" Long Rack, up to 20° R. or L. angle, 4" face.....	9,850
GG-29 (external and internal) 12" I. H., 2" to 12" external and 3" to 8" internal, 2 1/2" face, internal.....	10,800
GG-30 (internal) 16" I. H., 3 1/2" to 16" internal, 3" face.....	11,600
GG-31 (internal) 12" I. H., 3 1/2" to 12" internal, 3" face.....	10,600
GG-32 (external) 16" I. H., 4" to 15" diameter work.....	10,450
GG-33 (external) 16" I. H., 1 1/2" to 16" diameter work, up to 42" between centers.....	10,780
GG-33 (external) 16" I. H., 1 1/2" to 16" diameter work, up to 48" between centers.....	11,000
GG-34 (external) 12" I. H., 1 1/2" to 12" diameter work, 6" face.....	10,225
Types of shaft grinders (square keys):	
SG-9, 9" I. H., 10" diameter work, 16" between centers.....	6,225
SG-11, 9" I. H., 10" diameter work, 24" between centers.....	6,560
SG-12, 12" I. H., 10" diameter work, 60" between centers.....	10,425
SGG-16, 12" I. H., 10" diameter work, 80" between centers.....	18,500
SG-17, 12" I. H., 10" diameter work, 42" between centers.....	10,200

THE GEAR GRINDING MACHINE CO., DETROIT, MICH.—Con.

LAST PRICE SCHEDULE—continued

Price f. o. b.

Detroit

\$29,600

Worm Grinder WG-2.....

Types of measuring instruments:

MI-1, 72" diameter, Gear Tooth Curve Indicator. (Price upon request.)

MI-3, 1" to 15" diameter Gear Tooth Curve Indicator..... 2,350

MI-5, 4" to 18" diameter Gear Tooth Curve Indicator..... 2,800

MC-3, 2½" to 10" diameter Gear Tooth Curve Comparator..... 900

ME-2, 18" diameter, Gear Eccentricity Clock Indicator..... 750

GENERAL ENGINEERING & MANUFACTURING CO., ST. LOUIS, MO.

KELLY HEAVY DUTY SHAPERS

Size of machine Series.....	16 inches Heavy	20 inches Heavy	24 inches Heavy	28 inches Heavy	32 inches Heavy	36 inches Heavy
Standard machine, regular equipment, single pulley drive.....	\$2,150	\$2,280	\$2,640	\$2,780	\$3,307	\$3,490
Standard machine, regular equipment, arranged for motor drive through V-belts but no electrical equipment.....	2,290	2,390	2,755	2,890	(1)	(1)
Mounting and wiring of starter and motor at factory.....	20	20	25	25		

(1) No longer made.

NOTE.—Prices corrected upon advice of manufacturer. They differ from those shown in first edition of Prices of New Machine Tools.

GENERAL MACHINERY CORPORATION, HAMILTON, OHIO

BORING MILLS

Size	A. C. equipment		D. C. equipment	
	Weight	Price	Weight	Price
	Pounds		Pounds	
53" heavy.....	24,300	\$9,700	23,700	\$9,000
62" heavy.....	30,200	11,300	29,700	10,600
73" standard.....	31,500	11,700	31,000	11,000

RADIAL DRILLS

Size	Centers	Weight	Price	Extra 2 feet of bed
5".....		14,300	\$6,500	13,300
6".....		16,300	7,000	15,300

ENGINE LATHES

Size	Centers	Weight	Price	Extra 2 feet of bed
		Pounds		
27".....	4'	15,000	\$7,250	270
30".....	5'	15,600	8,100	320
36".....	5'	16,900	9,150	350

Heavy	Size	Centers	A. C. equipment		D. C. equipment		Extra 2 feet of bed
			Weight	Price	Weight	Price	
			Pounds		Pounds		
36".....	5'		27,800	\$12,000	27,000	\$11,250	425
42".....	5'		29,050	12,850	28,250	12,100	455
48".....	5'		37,100	14,350	35,800	13,250	485
60".....	7'		53,500	19,100	52,000	18,000	540
72".....	7'6"		72,700	31,185	71,000	29,315	750

GENERAL MACHINERY CORPORATION, HAMILTON, OHIO—Con.

PLANERS

Size	Weight	Price	Per extra foot
	Pounds		
36" x 8".....	27,600	\$10,065	\$270
42" x 8".....	29,800	11,330	305
48" x 10".....	43,000	13,090	340
60" x 12".....	71,400	18,040	430
72" x 12".....	85,400	22,440	475

GENERAL MANUFACTURING COMPANY, DETROIT, MICH.

GENERAL FLEXIBLE POWER PRESSES

Press No.	Description	Price
30	3-ton Arbor, G-F-P press, bench type, belt drive, with standard 6" stroke, 12" opening, and 5" table height.....	\$360
	Head only, belt drive with standard 6" stroke.....	300
	ADD THE FOLLOWING EXTRAS TO ABOVE PRICES	
	Column to bring table 40" from floor.....	40
	Lethe attachment.....	20
	Special opening less than standard 12" opening.....	6
	Special opening more than standard 12" opening, \$6.00 plus \$.40 per inch over standard.....	12
	Special 9" stroke.....	18
	Special 12" stroke.....	60
	Silent chain motor drive attachment (not including motor or control) shipped with press.....	75
	V-belt motor drive attachment, with swinging motor bracket (not including motor or control) shipped with press.....	90
	Same attachment ordered later.....	105
	Mounting and wiring (not including motor or control).....	20
33	Motor required: 2 hp., 1,200 r. p. m., motor, less slide rails and pulley.	
	3-ton, 3 post, G-F-P press, belt drive, with standard 6" stroke, 12" opening, and 40" table height.....	420
	Head only, belt drive, with standard 6" stroke.....	310
	ADD THE FOLLOWING EXTRAS TO ABOVE PRICES	
	Special legs for 29" table height.....	5
	Special opening less than standard 12" opening.....	6
	Special opening more than standard 12" opening, \$6 plus \$.40 per inch over standard.....	12
	Special 9" stroke.....	18
	Special 12" stroke.....	14
	Extra nosepiece for straightening attachment.....	7
	Nosepiece for straightening attachment in place of standard nosepiece.....	95
	Silent chain motor-drive attachment (not including motor or control) shipped with press.....	110
	Same attachment ordered later.....	95
	V-belt motor-drive attachment (not including motor or control) shipped with press.....	110
	Same attachment ordered later.....	20
	Mounting and wiring (not including motor or control).....	
	Motor required: 2 hp., 1,200 r. p. m., motor, less slide rails and pulley.	
83	8-ton, 3 post, G-F-P press, belt drive, with standard 9" stroke, 12" opening, and 30" table height.....	700
	Head only, belt drive, with standard 9" stroke.....	525
	ADD THE FOLLOWING EXTRAS TO ABOVE PRICES	
	Special column for 40" table height.....	15
	Special opening less than 12" standard opening.....	6
	Special opening more than 12" standard opening, \$6 plus \$.50 per inch over standard.....	15
	Special 12" stroke.....	22
	Special 15" stroke.....	30
	Special 18" stroke.....	15
	Extra nosepiece for straightening attachment.....	7
	Nosepiece for straightening attachment in place of standard nosepiece.....	160
	Silent chain motor-drive attachment (not including motor or control) shipped with press.....	170
	Same attachment ordered later.....	160
	V-belt motor drive attachment (not including motor or control) shipped with press.....	170
	Same attachment ordered later.....	170
	Mounting and wiring (not including motor or control).....	20
	Motor required: 5 hp., 1,200 r. p. m., motor, less slide rails and pulley.	

GENERAL MANUFACTURING COMPANY, DETROIT, MICH.—Continued
GENERAL FLEXIBLE POWER PRESSES—Continued

Press No.	Description	Price
83	8-ton, 3-post, horizontal G-F-P press, belt drive, with standard 9" stroke, 24" opening, height from floor to center of ram, 36"	825
	ADD THE FOLLOWING EXTRAS TO ABOVE PRICES	
	Special opening less than standard 24" opening	6
	Special opening more than standard 24" opening, \$6 plus \$.60 per inch over standard.	
	Special 12" stroke	15
	Special 15" stroke	22
	Special 18" stroke	30
	(No motor-drive attachment for this press.)	
84	8-ton, 4 post, G-F-P press, belt drive, with standard 9" stroke, 12" opening, and 30" table height	965
	ADD THE FOLLOWING EXTRAS TO ABOVE PRICES	
	Special opening less than standard 12" opening	8
	Special opening more than standard 12" opening, \$8 plus \$.75 per inch over standard.	
	Special 12" stroke	15
	Special 15" stroke	22.50
	Special 18" stroke	30
	(No motor-drive attachment for this press.)	
201	20-ton, adjustable knee, G-F-P press, belt drive, with standard 18" stroke, 3" to 27" opening and 43" to 19" table height	1,220
	ADD THE FOLLOWING EXTRAS TO ABOVE PRICES	
	Extra parts necessary including straightening nose piece for use with no. 900 shaft straightening attachment	22
	Same parts in place of standard parts	7
	Extra parts necessary including straightening nose piece for use with no. 910 shaft straightening attachment	45
	Same parts in place of standard parts	30
	Silent chain motor drive attachment (not including motor or control) shipped with press	130
	Same attachment ordered later	175
	V-belt motor drive attachment, with swinging motor bracket (not including motor or control) shipped with press	190
	Same attachment ordered later	235
	Mounting and wiring (not including motor or control)	25
	Motor required: 10 hp., 1,200 r. p. m., motor less slide rails and pulley.	
202	20-ton, 3 post, G-F-P press, belt drive, with standard 12" stroke, 18" opening, and 30" table height	1,100
	Head only, with standard 12" stroke	825
	ADD THE FOLLOWING EXTRAS TO ABOVE PRICES	
	Special legs, for 24" table height	5
	Special legs, for 21" table height	5
	Special opening less than standard 18" opening	9
	Special opening more than standard 18" opening—\$9 plus \$1 per inch over standard.	
	Special 15" stroke	25
	Special 18" stroke	34
	Special 21" stroke	43
	Extra no. 1035 straightening nose piece for use with no. 900 heavy base shaft straightening attachment	20
	No. 1035 nose piece in place of standard nose piece	8
	Extra no. 1036 straightening nose piece for use with no. 910 heavy base shaft straightening attachment	18
	No. 1036 nose piece in place of standard nose piece	6
	Silent chain motor drive attachment (not including motor or control) shipped with press	180
	Same attachment ordered later	200
	V-belt motor drive attachment (not including motor or control) shipped with press	180
	Same attachment ordered later	200
	Mounting and wiring (not including motor or control)	20
	Motor required: 10 hp., 1,200 r. p. m., motor less slide rails and pulley.	
203	20-ton, 3 post, horizontal G-F-P press, belt drive, with standard 12" stroke, 24" opening, height from floor to center of ram, 40"	1,375
	ADD THE FOLLOWING EXTRAS TO ABOVE PRICES	
	Special opening less than standard 24" opening	9
	Special opening more than standard 24" opening—\$9 plus \$1 per inch over standard.	
	Special 15" stroke	25
	Special 18" stroke	34
	Special 21" stroke	43
	(No Motor Drive Attachment for this press.)	

GENERAL MANUFACTURING COMPANY, DETROIT, MICH.—Continued
GENERAL FLEXIBLE POWER PRESSES—Continued

Press No.	Description	Price
204	20-ton, 4 post, G-F-P press, belt drive, with standard 12" stroke, 15" opening, and 30" table height	1,730
	ADD THE FOLLOWING EXTRAS TO ABOVE PRICES	
	Special opening less than standard 15" opening	10
	Special opening more than standard 15" opening—\$10 plus \$1.50 per inch over standard.	
	Special 15" stroke	25
	Special 18" stroke	34
	Special 21" stroke	43
	(No Motor Drive Attachment for this press.)	
605	60-ton, lever type, G-F-P, belt drive, with standard 4" stroke, 21" opening and 30" table height	2,300
	ADD THE FOLLOWING EXTRAS TO ABOVE PRICES	
	Extra straightening nose piece for use with shaft straightening attachment	25
	Straightening nose piece in place of standard nose piece	15
	Silent chain motor drive attachment (not including motor or control) shipped with press	160
	Same attachment ordered later	175
	V-belt motor drive attachment, with swinging motor bracket (not including motor or control) shipped with press	200
	Same attachment ordered later	215
	Mounting and wiring (not including motor or control)	25
	Motor Required: 10 hp., 1,200 r. p. m., motor less slide rails and pulley.	
	SHAFT STRAIGHTENING ATTACHMENTS	
	NOTE.—The first dimension after the attachment type, denotes the maximum swing for the work and is followed by the maximum length the attachment will take between centers, which will be shipped unless otherwise specified (however 24", 36", 48", 60" are optional on all attachments when specified).	
	When supplying customer with an attachment for a machine which he already has, it must be remembered that the machine must have a straightening nose piece and other parts necessary to work properly with this attachment. These are all shown under the various machine extras.	
Type	Description	Price
900-A	8" x 24" light base (24" long) spring center type	\$115
900-AV	8" x 24" light base (24" long) roller vee type	115
900-B	8" x 36" light base (40" long) spring center type	140
900-BV	8" x 36" light base (40" long) roller vee type	140
900-C	8" x 36" heavy base (40" long) spring center type	160
900-CV	8" x 36" heavy base (40" long) roller vee type	160
900-A, B, or C	Specify type and size desired, carriage only	70
900-AV, BV, CV	Specify type and size desired, carriage only	70
	ADD THE FOLLOWING EXTRAS TO ABOVE ATTACHMENT PRICES	
	Special length between centers over 48" (60", 72", 84", 96", 108", 120")	25
	Special no. 1691 indicator holder (for any no. 900 attachment)	10
	Special no. 901 jack (with any no. 900 attachment)	12
910-B	10" x 36" light base (40" long) screw center type	175
910-BV	10" x 36" light base (40" long) roller vee type	165
910-C	10" x 36" heavy base (40" long) screw center type	180
910-CV	10" x 36" heavy base (40" long) roller vee type	180
910-B or C	Specify type and size desired, carriage only	90
910-BV or CV	Specify type and size desired, carriage only	90
	ADD THE FOLLOWING EXTRAS TO ABOVE ATTACHMENT PRICES	
	Special length between centers over 60" (72", 84", 96", 108", 120")	20
	Special no. 1692 indicator holder (for any no. 910 attachment)	10
	Special no. 901 jack (with any no. 910 attachment)	12
906-C	6" x 36" heavy base (40" long) screw center type	225
906-CV	6" x 36" heavy base (40" long) roller vee type	215
906-C	Specify type and size desired, carriage only	100
906-CV	Specify type and size desired, carriage only	90
	ADD THE FOLLOWING EXTRAS TO ABOVE ATTACHMENT PRICES	
	Special length between centers over 60" (72", 84", 96", 108", 120")	20
	Special no. 1692 indicator holder (for any no. 906 attachment)	10

GENERAL MANUFACTURING COMPANY, DETROIT, MICH.—Continued

GENERAL FLEXIBLE POWER PRESSES—Continued

Type	Description	Price
1514-C	14" x 48" heavy base (48" long) screw center type	500
1514-CV	14" x 48" heavy base (48" long) roller vee type	475
1514-C	14" x 48" screw center type, carriage only	350
1514-CV	14" x 48" roller vee type, carriage only	325
ADD THE FOLLOWING EXTRAS TO ABOVE ATTACHMENT PRICES		
Either C or CV	14" x 72" 14" x 84" 14" x 96" 14" x 108" 14" x 120"	
Attachments	\$50 \$65 \$80 \$95 \$110	
Carriage only	\$10 \$20 \$30 \$40 \$50	

THE GEOMETRIC TOOL COMPANY, NEW HAVEN, CONN.

NO. 20 GEOMETRIC CHASER GRINDER

No. 20 chaser grinder complete with ½ hp., capacitor type, 110 volt, single phase, 60 cycle, 1725 r. p. m., open, sleeve bearing motor, resilient base mounting, single pole conduit box switch, foot cord and plug, also one dish grinding wheel 9" x ¾" x 1¼"—weight 560 pounds	\$425
One Style E universal chaser grinding fixture with one chaser holder	70
Magnetic tilting chuck, size 4" x 8" (direct current only)	100

GEOMETRIC THREADING MACHINES

Machine, including pump, oil hood, splash guard, necessary wrenches, die operating yoke, vee belt drive, one pair change gears of pick-off type, but exclusive of die head, chasers holding device, motor, motor sliding base, electrical equipment and wiring (does not include bench):	
Machine No. 11 (weight, 305 pounds)	375
Machine No. 14 (weight, 625 pounds)	550
Machine No. 16 (weight, 1,025 pounds)	700
Bench for No. 11 machine only	20
Standard vise type chuck, including automatic work gage but exclusive of chuck jaw bushings:	
Machine No.:	
11	125
14	175
16	225

GIDDINGS & LEWIS MACHINE TOOL CO., FOND DU LAC, WIS.

The following are the current base list prices of our machines:

No. 25-T, 2½" bar table type	\$8,000
No. 25-RT, As above except with built-in revolving table	8,800
No. 330-T, 3" bar table type	15,000
No. 340-T, 4" bar table type	18,000
No. 350-T, 5" bar table type	24,000
No. 560-T, 6" bar table type	44,000
No. 570-T, 7" bar table type	48,000
No. 770-T, 7" bar table type	60,000
No. 780-T, 8" bar table type	65,000
No. 50-T, 5" bar table type	24,800
No. 56-T, 6" bar table type	28,600
No. 340-F, 4" bar floor type	16,000
No. 350-F, 5" bar floor type	21,500
No. 360-F, 6" bar floor type	23,000
No. 560-F, 6" bar floor type	37,500
No. 570-F, 7" bar floor type	41,500
No. 770-F, 7" bar floor type	52,000
No. 780-F, 8" bar floor type	57,000

GISHOLT MACHINE CO., MADISON, WIS.

CURRENT GISHOLT PRICES

Machine	Description	Weight	Price
		Pounds	
No. 3	1¼" Ram Type Turret Lathe	5,000	\$3,500
No. 4	2" Ram Type Turret Lathe	5,500	3,880
No. 5	2½" Ram Type Turret Lathe	5,800	4,365
1L	2½" Saddle Type Turret Lathe	8,200	5,725
2L	3½" Saddle Type Turret Lathe	9,700	6,975
3L	4½" Saddle Type Turret Lathe	10,600	8,675
3AL	6½" Saddle Type Turret Lathe	14,200	9,375
4L	9½" Saddle Type Turret Lathe	19,000	10,800
5L	12½" Saddle Type Turret Lathe	23,000	12,500
3D	9½" Saddle Type Turret Lathe	11,000	16,100
No. 12	Platen Type Simplicatic Lathe	6,000	4,900
	Hydraulic Automatic Lathe		4,300

GISHOLT LATHES

(Classification by types and dates of manufacture. Additional information of interest)

1. **Classification.**—Classification by date of manufacture wherein:
 - "1" indicates lathes of 1936 and after.
 - "2" indicates lathes of 1930-35, inclusive.
 - "3" indicates lathes of 1920-29, inclusive.
 - "4" indicates lathes of 1919 and before.
2. **Type.**—Symbol or number indicating specific type of lathe.
3. **Lot numbers.**—Lot numbers under which lathes were manufactured. (The serial number of any one machine is comprised of the lot from which the machine came and a number indicating the sequence of that machine in its lot.)
4. **Year.**—Years in which the various lots were authorized. In several cases manufacture of a lot was not completed until the following year, but such exceptions are not important enough to be noted.
5. **Size.**—Figures indicating capacity of machine in round bar stock, and in earlier machines, the spindle bore size.
6. **Current model of comparable size.**—Current model of comparable size gives reference to machines listed on the sheet entitled "Current Gisholt Prices." Particular attention should be called to the fact that manufacture of the earlier styles of lathes (Type "G," "H," "I," "J," and "K" especially) have long ago been discontinued, and modern lathes are of too advanced a nature to be considered at all comparable except in size.
7. **Weight.**—Approximate weight of machine. For earlier machines, these weights are only approximate.

TURRET LATHES—OLD TYPE

Classification	Type	Lot numbers	Year	Size	Current model of comparable size No.
				Inches	
4	G	115-135	1898-1915	1½	3
4	G	136-144	1915-19	2½	5
3	G	145	1920	2½	5
4	H	200-224	1898-1904	2	4
4	H	300-313	1905-08	3½	2L
4	H	314-340	1908-19	3½	2L
3	H	501-504	1920	3½	2L
		505		2½	5
4	I	225-249	1898-1919	4	2L
		350-411		4½	3L
				5	3L
				6	3AL
3	I	412	1920	6½	3AL
4	J	108-113	1898-1919	6½	3AL
4	J	250-271		6½	3AL
3	J	272-274	1923-27	7½	3AL
4	K	114	1898-1913	4½	3L
4	K	275-292		6½	3AL
4	K	293-296	1914-18	6½	3AL
3	K	297	1924	6½	3AL

GISHOLT MACHINE CO., MADISON, WIS.—Continued

TURRET LATHES—RAM TYPE

Classification	Type No.	Lot numbers	Year	Size	Current model of comparable size No.	Weight
				Inches		Pounds
3.....	2	701-707	1925-29	1	3	
3.....	3	751-756	1924-28	1½	3	3,300
2.....	3	757-765-768	1930-35	1½	3	5,000
		769				
		773				
		775				
1.....	3	776	1936-38	1½	3	5,000
		780				
		782				
		784				
		785				
		786				
3.....	4	801-820	1924-29	2	4	4,000
		821-823				
2.....	4	761	1930-35	2	4	5,500
		762				
		765				
		767				
		770-772				
		774				
1.....	4	779	1936-38	2	4	5,500
		781				
		783				
		787				
1.....	3	788-799	1939-41	1½(3)	3(3)	5,000(3)
	4	715-746		2(4)	4(4)	5,500(4)
2.....	5	825-826	1934-35	2½	5	4,200
1.....	5	827-848	1936-41	2½	5	5,800
3.....	6	851-861	1924-28	2½	5	3,800
2.....	6	862	1934	2½	5	3,800

¹ Even. ² Odd.

TURRET LATHES—SADDLE TYPE

Classification	Type No.	Lot numbers	Year	Size	Current model of comparable size No.	Weight
				Pounds		Pounds
3.....	1L	601-609	1927-29	2½	1L	5,600
2.....	1L	610-612	1930-35	2½	1L	8,200
	1L	613-627	1936-41	2½	1L	8,200
3.....	2L	651-660	1928-29	3½	2L	7,500
2.....	2L	661-665	1930-35	3½	2L	7,500
		666				
		667				
		669				
		670				
		672				
		674				
		675				
1.....	2L	676	1936-41	3½	2L	9,700
		678				
		680				
		682				
		684				
		686				
		688				
		690				
3.....	3L	1104	1923-28	4½	3L	10,600
		901-910				
		912				
2.....	3L	914	1929	4½	3L	10,600
		916				
		918				
		923				
		668				
1.....	3L	671	1936-41	4½	3L	10,600
		673				
		677				
		679				

GISHOLT MACHINE CO., MADISON, WIS.—Continued

TURRET LATHES—SADDLE TYPE—Continued

Classification	Type No.	Lot numbers	Year	Size	Current model of comparable size No.	Weight
				Pounds		Pounds
1.....	3L	681	1936-41	4½	3L	10,600
		683				
		685				
		687				
		689				
		691				
		906-911				
3.....	3AL	913	1926-29	6¼	3AL	14,200
		915				
		917				
2.....	3AL	919-922	1930-35	6¼	3AL	14,200
1.....	3AL	924-929	1936-39	6¼	3AL	14,200
				9¼		
3.....	4L	1131	1924-29	10½	4L	19,000
		951-961		12¼		
				9¼		
2.....	4L	962-963	1935	12¼	4L	-----
				9¼		
1.....	4L	964-967	1936-41	10½	4L	19,000
		970-971		12¼		
3.....	5L	954-955	1926	9¼	5L	23,000
2.....	5L	962	1935	9¼	5L	23,000
		965		9¼		
1.....	5L	966	1937-40	10½	5L	23,000
		968				

AUTOMATIC LATHES

Simplimatic lathes:						
3.....	3D	1055	1921-29		3D	11,000
		1058				
		18500-18518				
2.....	3D	519-529	1930-35		3D	11,000
1.....	3D	530-532	1936-41		3D	11,000
		533-546				
Hydraulic lathes:						
2.....	12	3001	1935		12	6,000
1.....	12	3002-3014	1936-41		12	6,000

GLEASON WORKS,¹ ROCHESTER, N. Y.

SPIRAL BEVEL AND HYPOID GEAR MACHINERY

Machine:	Price
3" spiral bevel gear generator.....	\$4,900
No. 7 spiral bevel and hypoid generator.....	9,875
No. 11 single cycle formate gear finishing machine.....	11,150
No. 14 spiral bevel and hypoid formate gear grinder.....	16,500
No. 16 hypoid generator arranged for jobbing work.....	12,090
No. 16 hypoid generator arranged for production work.....	12,050
No. 17 hypoid grinder.....	24,500
No. 22 single cycle spiral bevel and hypoid formate gear finishing machine.....	16,500
No. 26 hypoid generator.....	19,200
No. 40 spiral and hypoid bevel gear planing generator.....	30,750
No. 10 spiral bevel and hypoid gear rougher.....	8,550
No. 11 gear roughing and semi-finishing machine.....	8,885
No. 15 spiral bevel pinion rougher.....	10,475
No. 22 spiral bevel and hypoid gear roughing machine.....	13,875
No. 7 spiral bevel cutter sharpener.....	1,300
No. 13 spiral bevel cutter sharpener.....	8,500
15" spiral bevel cutter sharpener.....	2,235
cutter truing device.....	975
cutter angle testing device.....	750

¹ Prices corrected upon advice of manufacturer. They differ from those shown in first edition of Prices of New Machine Tools.

GLEASON WORKS, ROCHESTER, N. Y.—Continued

STRAIGHT BEVEL GEAR MACHINERY

	Price
3" straight bevel gear generator.....	\$4, 900
No. 6 revacycle completing machine.....	14, 150
No. 9 completing generator.....	15, 920
12" straight bevel gear generator.....	9, 410
No. 24 straight bevel gear generator.....	17, 500
No. 9 automatic disc cutter sharpener.....	2, 100
No. 12 generator tool sharpener.....	950
No. 12 straight bevel gear rougher (2 tool planer type).....	7, 700
No. 7 revex straight rougher (special disc cutter type).....	8, 500

BEVEL AND SPUR GEAR PLANERS

54" straight bevel gear planer.....	16, 200
77" straight bevel gear planer.....	31, 000

AUXILIARY MACHINES

3" bevel gear testing machine.....	1, 125
No. 4 (No. 6) angular bevel and hypoid gear testing machine.....	1, 975
10" gear concentricity and space testing fixture.....	815
No. 13 Universal gear testing machine.....	4, 825
No. 17 comb. testing and lapping machine.....	5, 125
No. 17 hypoid testing machine.....	3, 275
No. 17 spiral bevel pinion burnishing machine.....	7, 485
No. 27 hypoid testing machine.....	5, 580
15" quenching press.....	2, 800
25" quenching press.....	3, 550
No. 2 surface hardening machine.....	5, 650
tooth spacing tester.....	800
angular hand rolling fixture.....	750

Machine	Last price	Year dropped
4" Spiral bevel gear generator ¹	\$3, 500	1929
10" Spiral bevel generator (suitable for mass production).....	4, 950	1935
15" Spiral bevel gear generator (fixed spindle single motor).....	5, 600	1928
15" Spiral bevel gear generator (2 motor type).....	6, 000	1934
15" Hypoid gear generator.....	6, 300	1932
No. 15 Spiral bevel and hypoid pinion grinder.....	24, 500	1940
No. 16 Spiral bevel gear generator.....	8, 950	1935
No. 15A Spiral bevel pinion rougher.....	11, 250	1940
25" Spiral bevel gear generator.....	15, 500	1940
15" Spiral bevel gear rougher.....	2, 680	1935
15" Spiral bevel pinion rougher.....	3, 610	1935
3 Spindle straight bevel gear rougher.....	9, 350	1941
3 Spindle rougher cutter sharpener.....	2, 975	1941
3" Straight bevel gear generator (old model) ¹	2, 000	1926
8" Mfg. generator.....	7, 250	1940
6" Straight bevel gear generator ¹	4, 400	1929
11" Straight bevel gear generator ¹	3, 650	1924
11" Straight bevel gear generator ¹	4, 400	1927
25" Straight bevel gear generator.....	15, 500	1940
37" Straight bevel gear planer (form copying type).....	12, 450	1940
24" Straight bevel gear planer (form copying type).....	5, 500	1928
12" Automatic spiral bevel cutter sharpener.....	5, 725	1940
No. 18 Spur gear tester.....	4, 750	1939

¹ Price is shown with full equipment. Many of these machines were shipped stripped for one mass production job. To supply full equipment would cost from \$1,000 to \$1,500.

GOOLEY AND EDLUND

Prices as furnished by Cooper Bros., of Cortland, N. Y.

HIGH DUTY MILLING MACHINES

TYPE A—PRICES AND SPECIFICATIONS

Traverse of table (inch)	Distance between housings	Taper of arbor	Table working surface	Net weight with countershaft	Price
	<i>Inches</i>		<i>Inches</i>	<i>Pounds</i>	
16.....	12 1/4	No. 11 B. & S....	24 x 8	2, 350	\$1, 320
22.....	12 1/4	No. 11 B. & S....	30 x 8	2, 500	1, 370
28.....	12 1/4	No. 11 B. & S....	36 x 8	2, 650	1, 410
38.....	12 1/4	No. 11 B. & S....	48 x 8	2, 800	1, 650

With extra cutter arbor either 1", 1 1/4", or 1 1/2", each, \$32.

Without oil pump and piping deduct, \$15.

Regular equipment consists of motor bracket, sheaves, V-belts, reverse feed, one oil pump with piping, one cutter arbor (specify size), and one set of wrenches. Prices do not include motor nor electrical controls.

TYPE B—PRICES AND SPECIFICATIONS

Traverse of table (inch)	Distance between housings	Taper of arbor	Table working surface	Net weight with countershaft	Price
	<i>Inches</i>		<i>Inches</i>	<i>Pounds</i>	
34.....	17	No. 12 B. & S....	50 x 11	4, 400	\$2, 000
42.....	17	No. 12 B. & S....	50 x 11	4, 400	2, 120
52.....	17	No. 12 B. & S....	56 x 11	4, 650	2, 300
60.....	17	No. 12 B. & S....	64 x 12	4, 650	2, 400
72.....	17	No. 12 B. & S....	78 x 12	5, 000	3, 000

With extra cutter arbor either 1 1/4", 1 1/2", 1 3/4", or 2", each, \$40.

Without oil pump and piping, \$15.

Regular equipment consists of motor bracket, sheaves, V-belts, reverse feed one oil pump, with piping, one cutter arbor (specify size), and one set of wrenches. Prices do not include motor nor electrical controls.

GEORGE GORTON MACHINE COMPANY, RACINE, WIS.

VERTICAL MILLING MACHINES

	H. F. weight	H. F. price	P. F. weight	P. F. price
8-D.....	1, 500	\$1, 495	1, 700	\$2, 125
8 1/2-D.....	2, 300	2, 175	2, 500	2, 945
9-J.....	3, 000	2, 730	3, 275	3, 475

VERTICAL MILLING MACHINES EQUIPPED AS DUPLICATORS

	H. F. weight	H. F. price	P. F. weight	P. F. price
8-D.....	1, 730	\$3, 205	1, 930	\$3, 835
8 1/2-D.....	2, 660	4, 055	2, 860	4, 825
9-J.....	3, 570	4, 790	3, 845	5, 535

PANTOGRAPH ENGRAVING MACHINES

STANDARD TWO-DIMENSIONAL

Style	Weight	Price
3-U.....	700	\$998
3-F Same as 3-U, but with small pantograph.....	675-700	998
3-S.....	2, 200	3, 255

STANDARD THREE-DIMENSIONAL

	Weight	Price
3-B.....	935	\$1, 195
3-L.....	2, 225	2, 470

THE GOSS AND DE LEEUW MACHINE COMPANY, NEW BRITAIN, CONN.

TOOL ROTATING FOUR-SPINDLE MACHINES

	6 x 6 $\frac{1}{4}$	8 $\frac{1}{2}$ x 8
Plain machine.....	\$7,000	\$10,700
Single threading machine.....	7,650	11,500
Double threading machine.....	7,750	11,700

All machines are arranged for motor drive, but do not include the main drive motor. Motor base, chain, chain guard and sprockets are furnished.

On all threading machines the electrical equipment, including A. C. motor, is furnished complete. An extra charge is made for this equipment if for D. C. power or odd voltages or cycles.

Standard equipment includes: Five G. & DL 2-jaw chucks; one set of change gears, one hardened steel feed cam; one rear lead screw with single threading machine; one rear and one front lead screw with double threading machine; and complete set of wrenches.

WORK ROTATING MACHINES

6 SPINDLE

Plain Machine.....	\$12,250
Machine is arranged for direct motor drive, not including motors or controllers.	
Standard equipment includes one set of change gears, one hardened steel cam, and one set of wrenches.	
Extra equipment and attachments:	
Cross slides (3).....	\$950
Pump and piping.....	175
Hand or electric chucks.....	1,350
Motors and controllers.....	List
Lead screw threading attachment.....	1,500

5 SPINDLE

Plain machine, 8" diameter.....	\$11,750
Machine is arranged for direct motor drive, not including motors or controllers.	
Standard equipment includes one set of change gears, one hardened steel cam, and one set of wrenches.	
Extra equipment and attachments:	
Cross slides (3).....	\$950
Pump and piping.....	175
Hand or electric chucks.....	1,250
Motors and controllers.....	List
Lead screw threading attachment.....	1,500

8 SPINDLE

Plain Machine.....	\$13,150
Machine is arranged for direct motor drive, not including motors or controllers.	
Standard equipment includes one set of change gears, one hardened steel cam, and one set of wrenches.	
Extra equipment and attachments:	
Cross slides (4).....	\$1,250
Pump and piping.....	175
Hand or electric chucks.....	1,800
Motors and controllers.....	List
Lead screw threading attachment (one position).....	1,500
Lead screw threading attachment (two positions).....	2,000

GOULD & EBERHARDT, NEWARK, N. J.

Shaper and gear cutting machine prices

SHAPERS

Sizes	Weight	Prices	Sizes	Weight	Prices
14" Plain Tool Room:	Pounds		20/24" Industrial:	Pounds	
Regular table.....	2,925	\$2,175	Regular table.....	4,550	\$2,885
Universal table.....	3,200	2,465	Universal table.....	4,800	3,280
16" Tool Room:			24" Industrial:		
Regular table.....	3,100	2,305	Regular table.....	6,900	3,280
Universal table.....	3,350	2,640	Universal table.....	7,400	3,750
16" Industrial:			28" Industrial:		
Regular table.....	4,050	2,565	Regular table.....	7,000	3,335
Universal table.....	4,350	2,935	Universal table.....	7,400	3,810
16/20" Industrial:			32" Industrial:		
Regular table.....	4,100	2,640	Regular table.....	7,100	3,500
Universal table.....	4,350	3,010	Universal table.....	7,600	3,965
20" Industrial:			36" Industrial:		
Regular table.....	4,500	2,795	Regular table.....	8,225	3,940
Universal table.....	4,800	3,190	Universal table.....	8,750	4,495

GEAR HOBBING MACHINES

16HS (spur gears only).....	7,700	\$5,400	48H (Universal spur and helical gears).....	16,400	\$10,560
24HS (spur gears only).....	8,400	5,950	72H (Universal spur and helical gears).....	33,000	22,000
36HS (spur gears only).....	12,000	8,060	84H (Universal spur and helical gears).....	60,000	42,000
48HS (spur gears only).....	15,600	10,085	96H (Universal spur and helical gears).....	75,000	52,000
16H (Universal spur and helical gears).....	7,800	5,625			
24H (Universal spur and helical gears).....	8,400	6,250			
36H (Universal spur and helical gears).....	12,200	8,435			

GEAR CUTTING MACHINES (DISC TYPE)

36S (spur gears only).....	5,200	\$6,040	60S (spur gears only).....	15,600	\$10,700
36B (spur and bevel gears).....	5,200	6,615	60B (spur and bevel gears).....	15,000	11,300
36BM (bevel gear—multiple).....	5,200	6,965	60BM (bevel gear—multiple).....	15,800	11,850
36R (rack only).....	5,800	7,465	60R (rack only).....	16,600	12,900

All prices above apply to machines arranged for motor drive but without electrical equipment.

SPECIFICATIONS

Style No.	Face ¹ capacity spur pinions and gears	Face capacity 45° helical gears	Maximum diameter spur gear (with support)	Maximum diameter spur gear (no support) ²	Net weight limited equipment
	Inches	Inches	Inches	Inches	Pounds
12H.....	10	7	12	18	4,700
16H.....	10	7	14	18	7,550
24H.....	14	10	16	27	8,150
36H.....	14	10	24	45	11,800
48H.....	15	10 $\frac{1}{2}$	32	60	16,000
60H.....	18	12	40	72	29,000
72H.....	24	18	48	90	-----

¹ Standard rated pitch.

² Standard rated pitch hob.

E. O. GRABO MACHINE WORKS, INC., NEW YORK, N. Y.

Metal spinning lathes with standard equipment

SINGLE BED SPINNING LATHES

12-inch swing, 4-foot bed, complete, with countershaft	\$225
15-inch swing, 5-foot bed, complete, with countershaft	250
18-inch swing, 5-foot bed, complete, with countershaft	310
22-inch swing, 5-foot bed, complete, with countershaft	345
26-inch swing, 5-foot bed, complete, with countershaft	420
Boxing machines for export, 12- to 18-inch swing	net 12
Boxing machines for export, 22- to 26-inch swing	net 15

EXTENSION BED (GAP) SPINNING LATHES

No. 4 gap lathe, swing 26 to 48 inches, complete	\$750
No. 5 gap lathe, swing 30 to 60 inches, complete	1,500
Boxing gap lathe for export, No. 4	net 25
Boxing gap lathe for export, No. 5	net 40

BALL BEARING REVOLVING BACK CENTERS

Type "D" revolving centers for all lathes, extra, each	\$18
Extra heavy revolving center for gap lathe	30

These lathes are used extensively by manufacturers of lighting fixtures and other brass workers. Prices include either lever, or hand screw, on the tail stock and regular equipment.

12-inch swing, 4-foot bed, speed lathe, without slide rest	\$175
14-inch swing, 4-foot bed, speed lathe, without side rest	200
Compound slide rest	extra 72
Boxing speed lathes for export	net 10
Universal chucks, 3-inch, 4-inch, 5-inch and 6-inch diameter, with either 3 or 4 jaws, furnished and fitted extra	
Fitting universal chucks, any size	each 10

RIGHT AND LEFT LATHES WITH STANDARD EQUIPMENT

These lathes are used by lighting fixture manufacturers for drilling and tapping irregular shapes and fittings. It has two kinds of work holders, viz.: a vise and a clamp.

12-inch swing, 4-foot bed, right and left lathe, complete	\$290
14-inch swing, 4-foot bed, right and left lathe, complete	315
Allowance for parts:	
If without clamp, deduct	45
If without vise, deduct	45
Special tool holder for 4 tools	extra 65

GRANITE STATE MACHINE CO., INC., MANCHESTER, N. H.

No. 0 Vertical Milling Machine, \$835.

SPECIFICATIONS

Diameter of spindle at driving end	inch	¾
Size of table	do.	6½ x 20
Longitudinal travel of table	do.	12
Cross travel of table	do.	7
Collet capacity	do.	½
Weight	pounds	900

THE GRANT MFG. & MACHINE CO., BRIDGEPORT, CONN.

RIVET SPINNING MACHINES

All prices cover machines crated f. o. b. Bridgeport, Conn.]

No.	Capacity	Throat	Type	Price
80	Inch ¾	Inch 5/8	Pedestal with countershaft, choice of flat or horn type table, supporting anvil, roll holder, one pair spinning rolls for one diameter	\$210
82A	5/8	2 1/4	Pedestal with countershaft, other equipment as above	95
82A	5/8	2 1/4	Pedestal for horizontal motor, other equipment as above	115
82A	5/8	2 1/4	Pedestal with horizontal motor, other equipment as above	125
82A	5/8	2 1/4	Pedestal with vertical motor, other equipment as above	300
83	5/8		Pedestal with countershaft, flat table, two roll holders, two pairs spinning rolls for one diameter	545
83	5/8		Pedestal with two direct-connected motors, otherwise as above	
101	5/8	5 1/2	Pedestal with bracket for horizontal motor drive, with flat or horn type table, supporting anvil, roll holder, one pair rolls	210
101	5/8	5 1/2	Pedestal with horizontal motor, other equipment as above	265
103	5/8	5 1/2	Pedestal with vertical motor, other equipment as above	285
107	5/8	11 1/2	Pedestal with countershaft, other equipment as above	255
107	5/8	11 1/2	Pedestal with bracket for horizontal motor drive, with other equipment as above	255
107	5/8	11 1/2	Pedestal with horizontal motor, other equipment as above	310
107	5/8	11 1/2	Pedestal with vertical motor, other equipment as above	330
120A	7/8	5 1/2	Pedestal with countershaft, choice of flat or horn type table, supporting anvil, holder, one pair spinning rolls for one diameter	295
120A	7/8	5 1/2	Pedestal with bracket for horizontal motor, other equipment as above	295
120A	7/8	5 1/2	Pedestal with vertical motor, other equipment as above	390
120A	7/8	5 1/2	Pedestal with horizontal motor, other equipment as above	370
183	¾		Pedestal with countershaft, two roll holders, two pairs spinning rolls	525
183A	¾		Pedestal as above	545

When we are required to mount horizontal motors furnished by customers, we make additional charge of \$15.

Prices quoted above on machines including motors are for alternating current only. Where direct-current motors are required, prices quoted on application.

SPECIAL RIVET SPINNING MACHINES

Pedestal type milk crate riveting machine—with countershaft, special table with automatic gripping mechanism, crate support, roll holder with spinning rolls for one diameter wire	\$390
Pedestal type milk crate riveting machine—arranged for horizontal motor drive, without motor	390
Pedestal type milk crate riveting machine—with horizontal motor	445
Pedestal type milk crate riveting machine—with vertical motor	465
Two-spindle vertical pedestal with countershaft, roll holder with a pair of spinning rolls in each spindle, exclusive of fixtures	630
Three-spindle vertical pedestal equipped as above	745
Four-spindle vertical pedestal equipped as above	860
Five-spindle vertical pedestal equipped as above	975

No.	Capacity	Type	Price
83	Inch ¾	Pedestal type, double-end automatic chain riveting machine with countershaft, roll holder with spinning rolls in each spindle for one diameter pin	\$875
183	¾	Pedestal type, double-end automatic chain riveting machine with countershaft, and other equipment as above	1,250
1	¾	Pedestal type, internal rivet spinner with countershaft roll holder, one pair spinning rolls and supporting anvil	375
1	¾	Pedestal type, internal rivet spinner with vertical motor, other equipment as above	450

DOUBLE-END AUTOMATIC CHAMFERING MACHINES
LIGHT TYPE

No.	Capacity	Type	Price
183	Inch 1	With countershaft, magazine adjustable for different diameters and lengths within the capacity of the machine, one set cutter heads with cutters, one set clamping jaws, one set feed fingers for one diameter	\$1,250
183A	1	Equipped as above	1,300
183B	1	Equipped as above	1,350
		Extra price for arranging these machines for motor drive, exclusive of motor or electrical equipment, \$150.	

THE GRANT MFG. & MACHINE CO., BRIDGEPORT, CONN.—Continued

DOUBLE-END AUTOMATIC CHAMFERING MACHINES—Continued

HEAVY TYPE

No.	Capacity	Type	Price
183	Inch 2	With countershaft, magazine adjustable for different diameters and lengths within the capacity of the machine, one set cutter heads with cutters, one set clamping jaws, one set feed fingers for one diameter	\$1,350
183A	2	Equipped as above	1,400
183B	2	Equipped as above	1,450
283	2½	With motor and electrical control, magazine adjustable for different diameters and lengths within the capacity of the machine, one set cutterheads with cutters, one set clamping jaws, one set feed fingers for one diameter	3,750

DOUBLE-END AUTOMATIC THREADING MACHINES

1	36	Bed capacity to and including ¼" diameter, 1½" to 5" long, equipped with single pulley drive, magazine adjustable for different diameters and lengths within the capacity of the machine, self-opening and closing die heads with chasers (preferably geometric) clamping jaws, feed fingers, etc., for one diameter	\$1,750
2	48	Bed capacity ¾" to ¾" diameter, 6" to 12" in length, single magazine, other equipment above	1,950
2	48	Bed as above with twin or duplex magazine	2,150
3	68	Bed capacity ¾" to ¾" diameter, 6" to 32" in length, single magazine, other equipment as above	2,350
4		Capacity ¾" to 1½" diameter, 12" to 44" in length—single magazine—other equipment as above	5,000
4A		Capacity ¾" to 1½" diameter, 12" to 72" in length—single magazine—other equipment as above	6,500

ROTARY VIBRATING RIVETERS

No.	Capacity	Throat	Type	Price
1A	Inch ¾	Inch 3¼	Pedestal, with countershaft, table, supporting anvil and riveting hammer	\$170
1A	¾	3¼	Pedestal, arranged for horizontal motor drive, tooling as above	170
1A	¾	3¼	Pedestal, with ½ hp. alternating current, horizontal motor, tooling as above	200
2A	¾	5	Pedestal, with countershaft, tooling as above	245
2A	¾	5	Pedestal, arranged for horizontal motor drive, tooling as above	245
2A	¾	5	Pedestal, with ¾ hp. alternating current horizontal motor, tooling as above	285
3A	¾	5½	Pedestal, with countershaft, tooling as above	275
3A	¾	5½	Pedestal, arranged for horizontal motor drive, tooling as above	275
3A	¾	5½	Pedestal, with 1 hp. alternating current horizontal motor, tooling as above	330
3ADT	¾	20	Pedestal, with countershaft, tooling as above	345
3ADT	¾	20	Pedestal, arranged for horizontal motor drive	345
3ADT	¾	20	Pedestal, with 1 hp. alternating current horizontal motor	400
4A	¾	11½	Pedestal, with countershaft, tooling as above	460
4A	¾	11½	Pedestal, arranged for horizontal motor drive, tooling as above	460
4A	¾	11½	Pedestal, with 2 hp. alternating current horizontal motor, tooling as above	535
5A	¾	12	Pedestal, with countershaft, tooling as above	750
5A	¾	12	Pedestal, arranged for horizontal motor drive, tooling as above	750
5A	¾	12	Pedestal, with 3 hp. alternating current horizontal motor, tooling as above	850

When direct-current motors are required with above machines, prices will be quoted on application.

THE G. A. GRAY CO., CINCINNATI, OHIO

DOUBLE HOUSING PLANERS

Size	Base weight	Base price 1 rail head	Extra rail head	Side head	Extra extension	Type of drive
	Pounds					
24" x 24" x 6' standard pattern	8,500	\$3,775	\$747	-----	\$174	Belt.
30" x 30" x 6' standard pattern	11,000	4,908	779	-----	270	Do.
36" x 36" x 8' standard pattern	14,500	7,328	855	-----	293	Do.
30" x 30" x 8' maximum service	25,000	10,719	1,306	\$1,450	289	Rev. M. D.
36" x 36" x 8' maximum service	29,000	11,138	1,078	1,611	328	No electrical equipment.
42" x 42" x 8' maximum service	43,000	12,146	1,211	2,001	369	Do.
48" x 48" x 10' maximum service	52,000	14,243	1,211	2,148	415	Do.
56" x 56" x 10' maximum service	66,000	15,818	1,333	2,257	437	Do.
60" x 60" x 12' maximum service	76,000	19,534	1,595	3,165	519	Do.
72" x 72" x 12' maximum service	86,000	24,715	1,595	3,190	599	Do.

OPENSIDE PLANERS

36" x 36" x 8' maximum service	41,000	\$13,270	\$1,211	\$2,196	\$353	No electrical equipment.
48" x 48" x 10' maximum service	62,000	17,353	1,333	2,453	456	Do.
60" x 60" x 12' maximum service	90,000	24,408	1,595	3,255	566	Do.

Widening of planers and different types of drive extra.

GRAY MACHINE COMPANY, PHILADELPHIA, PA.

TURRET HEAD METAL CUTTER OR NIBBLER

Following standard equipment furnished with all sizes of machines: 6 cutting tools in 2 selected sizes for line or template cutting; 4 dies to fit tools; 1 double-end wrench; motor base for mounting motor.

Size No. 1, 24" throat, ¾" capacity in mild steel, 850 strokes per min. --- \$544
½ hp., single phase, 60 cycle, 110 volts, motor furnished with machine.

Shipping weight, 500 pounds.

Machine No. 1 is a bench model, shown on page 9 of catalog.
This machine can be mounted on a pedestal for \$50 extra.

Size No. 3, 24" throat, ¼" capacity in mild steel, 450-900 strokes per min. --- 850
Shipping weight, 1,400 pounds.

Size No. 4, 30" throat, ¼" capacity in mild steel, 450-900 strokes per min. --- 995
Shipping weight, 2,100 pounds.

Size No. 5, 36" throat, ¼" capacity in mild steel, 450-900 strokes per min. --- 1,020
Shipping weight, 2,800 pounds.

Size No. 6, 12" throat, ¾" capacity in mild steel, 450-900 strokes per min. --- 833
Shipping weight, (?)

Size No. 8, 12" throat, ¾" capacity in mild steel, 350-700 strokes per min. --- 935
Shipping weight, 1,600 pounds.

Size No. 9, 24" throat, ¾" capacity in mild steel, 350-700 strokes per min. --- 1,036
Shipping weight, 2,500 pounds.

Size No. 10, 36" throat, ¾" capacity in mild steel, 350-700 strokes per min. --- 1,407
Shipping weight, 3,750 pounds.

Size No. 10-A, 36" throat, ¾" capacity in mild steel, 160 strokes per min. --- 2,500
Shipping weight, 5,000 pounds.

Size No. 11, 36" throat, ¾" capacity in mild steel, 160 strokes per min. --- 2,700
Shipping weight, 5,000 pounds.

Size No. 12, 36" throat, ¾" capacity in mild steel, 160 strokes per min. --- 4,500
Shipping weight, 7,000 pounds.

No. 11, ¾" capacity and No. 12, ¾" capacity machines are of welded steel construction, also No. 10-A, ½" capacity.

D. C., single phase, and special voltage motors are higher in price.

Prices quoted on heavier capacity machines, up to 1", on application.

GRAY MACHINE COMPANY, PHILADELPHIA, PA.—Continued

PARTS FOR 1/4" AND 3/4" CAPACITY MACHINES	
Belts, each.....	\$35
Belt guards, each.....	35
Table support arms.....	25
Pin type circle cutting attachment.....	45

PRICE LIST OF EXTRA EQUIPMENT AND TOOLS FOR GRAY TURRET HEAD METAL CUTTER

Adjustable table support arms, to support sheet plate level with die while cut is being made, shown at 18 and 18-A, page 4 of catalog.....	\$12.00
Pin type circle cutting attachment for cutting circles, disks, rings, large washers, round gaskets, etc.....	18.00
Turret circle cutting attachment.....	45.00
18 gage shearing attachment.....	55.00
10 gage shearing attachment.....	75.00
Wiring in motor and starter.....	16.00
Belt guards, each.....	35.00
Leather belts, up to 1/4" capacity machines, each.....	8.50
Leather belts, 3/4" capacity machines, each.....	10.00
12-position swivel square die and tool holder.....	65.00
18 gage shear dies, each.....	2.50
18 gage shearing tools, upper and lower, each.....	2.50
18 gage shearing die holder.....	15.00
10 gage shearing die holder.....	65.00
10 gage upper and lower blades, each.....	3.50

GREENERD ARBOR PRESSES, NASHUA, N. H.

Standard equipment includes motor and starter with start and stop buttons in cover for 220/440/550 two or three phase 50/60 cycle current.

1 1/2-TON BENCH TYPE		6-TON PRESSES	
H-53-F3.....	\$510.00	H-57-A.....	\$750.00
H-53-F.....	500.00	H-57-C.....	785.00
H-53-E.....	500.00	H-57-D.....	820.00
H-54-F-3.....	520.00	Extra for 21" over plate.....	45.00
H-54-F.....	510.00	Extra for 30" over plate.....	75.00
H-54-E.....	510.00	Coolant pump and chip pan, extra.....	225.00
H-54-F-16.....	550.00		
Extra for stand.....	30.00		
Extra for foot control.....	15.00		
2-TON PRESSES		10-TON PRESSES	
H-51-E.....	\$600.00	57-ND (guide head).....	\$1,150.00
H-51-F.....	635.00	H-58 ¹	1,100.00
H-51-A.....	635.00	H-58-D ¹	1,000.00
H-51-A-5.....	635.00	H-58-CD.....	1,100.00
		H-58-C ¹	950.00
		H-58-AD ¹	1,060.00
2- AND 4-TON PRESSES		15-TON PRESSES	
H-55-D.....	\$685.00	H-60-D.....	\$1,000.00
H-55-C.....	685.00	H-60-AD.....	1,125.00
H-56-D.....	715.00	H-61-AD.....	1,210.00
H-56-E.....	690.00	H-64-AD.....	1,225.00
H-56-F.....	690.00	H-60-CD.....	1,165.00
H-56-A.....	690.00	H-64-CD.....	1,265.00
H-56-C.....	715.00	H-61-CD.....	1,265.00
Coolant pump and chip pan, extra.....	\$225.00	31 four-posted type.....	1,325.00
Extra for 21" over plate.....	40.00	W-60.....	(2)
Extra for 30" over plate.....	60.00	W-60-CD.....	(2)
Extra for latch type.....	75.00	W-56-D.....	(2)
		61-NDE.....	(2)
		AD-61-NDE.....	(2)

¹ Extra for 21" over plate \$60. Extra for 30" over plate \$100.
² Prices quoted upon request.

GREENERD ARBOR PRESSES, NASHUA, N. H.—Continued

15-TON PRESSES—Continued

Extra for BB ram pressure control attachment which may be attached to the 4-, 6-, 10-, and 15-ton presses except the No. 81, \$100.

30-TON PRESSES

H-70.....	\$1,600.00
H-70-21 (21" daylight and 21" stroke of ram).....	2,200.00
H-70-CD.....	1,450.00
H-70-P-pull type.....	1,700.00

GREENERD ARBOR PRESSES

No. 1 press lever type.....	\$12.00
No. 1 press pilot wheel type.....	13.50
No. 2 press lever type.....	24.00
No. 2 press with 12" pilot wheel.....	28.00
No. 3 press lever type.....	35.00
No. 3 press with 12" pilot wheel.....	38.00
No. 3 press with 24" pilot wheel.....	45.00
No. 3 ratchet type.....	50.00
No. 30 press lever type.....	52.00
No. 30 press, 12" pilot wheel.....	55.00
No. 30 press, 24" pilot wheel.....	62.00
No. 3JR press.....	62.00
No. 3 armature press lever type.....	36.00
No. 3 armature press-12" pilot wheel.....	39.00
No. 3 armature press with 24" pilot wheel.....	46.00
No. 3G geared press with 24" pilot wheel.....	110.00
No. 3A press lever type.....	53.00
No. 3A press with 12" pilot wheel.....	56.00
No. 3A press, 24" pilot wheel.....	63.00
No. 3A ratchet type.....	64.00
No. 3B press lever type.....	70.00
No. 3B press, 12" pilot wheel.....	73.00
No. 3B press, 24" pilot wheel.....	80.00
No. 3C press lever type.....	52.00
No. 3C press with 12" pilot wheel.....	55.00
No. 3C press, 24" pilot wheel.....	62.00
No. 3E press lever type.....	62.00

GREENERD ARBOR PRESSES—Con.

No. 3E press, 12" pilot wheel.....	65.00
No. 3E press, 24" pilot wheel.....	72.00
No. 3 1/2 press lever type.....	80.00
No. 3 1/2 press, 24" pilot wheel.....	85.00
No. 3 1/2 press, 36" pilot wheel.....	100.00
holding attachment extra.....	30.00
No. 3 1/2 press lever type.....	95.00
No. 3 1/2 press, 24" pilot wheel.....	100.00
No. 3 1/2 press, 36" pilot wheel.....	110.00
Holding attachment extra.....	30.00
No. 4 press, lever type.....	170.00
No. 4 press, 24" pilot wheel.....	175.00
Holding attachment extra.....	30.00
No. 4F press lever type.....	250.00
No. 5S press Timken bearing equipped, complete with holding attachment.....	325.00
No. 6 press, 36" pilot wheel.....	340.00
No. 6 press lever type.....	335.00
No. 6A press lever type.....	215.00
No. 6A press, 24" pilot wheel.....	220.00
No. 6A press, 36" pilot wheel.....	235.00
No. 7 press.....	595.00
No. 8 press.....	650.00
No. 9 press.....	700.00
No. 13 press.....	85.00
No. 14 press.....	250.00
No. 15 press.....	325.00
Nos. 14 and 15 holding attachment extra.....	35.00
No. 16 press, horizontal.....	700.00
No. 17 press.....	485.00
No. 32 press.....	700.00
No. 33 press.....	700.00
No. 34 press.....	325.00
No. 35 press.....	500.00
No. 36 press.....	250.00
Holding device on No. 34 and 36 extra.....	35.00
No. 40 press.....	235.00
STANDS	
No. 2 stand.....	\$26.00
No. 3 stand.....	32.00
Nos. 3C, 3E, 3G, 3JR stands, no lead pot.....	30.00
Nos. 3 1/2, 3 1/2, 40 stands.....	45.00
No. 3B stand.....	55.00
No. 3A stand.....	50.00

GREENLEE BROS. & CO., ROCKFORD, ILL.

4-SPINDLE AUTOMATIC SCREW MACHINES

Size	Weight	Price	Size	Weight	Price
	<i>Pounds</i>			<i>Pounds</i>	
1".....	9,550	\$8,000	1 3/4".....	15,300	\$9,300
1 1/4".....	15,000	8,250	2 1/4".....	16,700	10,100
1 3/8".....	15,000	8,250	2 3/8".....	16,800	11,400

6-SPINDLE AUTOMATIC SCREW MACHINES

1".....	16,125	\$9,350	1 3/4".....	20,140	\$11,600
1 3/8".....	19,850	10,250	2".....	20,140	13,850

GROB BROTHERS, GRAFTON, WIS.

GROB METAL BAND SAW PRICES

Type NS-36 Grob metal band saw with 1/2 hp., 1,750 r. p. m., 3 phase, 60 cycle, 220 or 440 volt built-in motor and manual starter, 36" throat, electric butt welder built-in frame; equipped with air blower and light attachment; automatic table feed, oil checked, with work-holding device.....	\$1,400.00
Same as above but as a combination machine for sawing and filing, using 1/2" wide Grob file chains.....	1,600.00
Type NS-24 Grob metal band saw with 1/2 hp., 1,750 r. p. m., 3 phase, 60 cycle, 220 or 440 volt built-in motor and manual starter, 24" throat, electric butt welder built-in frame; equipped with air blower and light attachment; automatic table feed, oil checked, with work-holding device.....	900.00
Same as above but as a combination machine for sawing and filing, using 1/2" wide Grob file chains.....	1,100.00
Type NS-14 Grob metal band saw with 1/2 hp., 1,750 r. p. m., 3 phase, 60 cycle, 220 or 440 volt built-in motor and manual starter, 14" throat, electric butt welder built-in frame; equipped with air blower and light attachment; automatic table feed, oil checked, with work-holding device.....	588.00
Same as above but without electrical equipment.....	548.00
Same as above, with electrical equipment but without table feed.....	523.00
Same as above but without electrical equipment and without table feed.....	483.00
One pair of saw guides for type NS-14.....	.50
Type S-14 Grob metal band saw with 1/4 hp., 110 volt AC single phase motor and starter, with electric band saw butt welder, with rotary air blower and light attachment.....	245.00
Same as above but without butt welder.....	147.00
Above with electrical equipment deduct.....	12.00

GROB BROTHERS, GRAFTON, WIS.—Continued

GROB METAL BAND SAW MACHINES

	NS-18			NS-24		NS-36	
	NS-18-3	NS-18-5	NS-18-10	NS-24-5	NS-24-10	NS-36-5	NS-36-10
Base price with 3 speeds, 1/4 hp., single phase motor and starter, light attachment and light table, ready to operate.....	\$250						
Base price with 5 speeds, 3/4 hp., 3 phase motor and starter, light attachment, heavy table and table stabilizer, ready to operate.....		\$345		\$653		\$1,153	
Base price with 10 speeds, 1 hp. motor, light attachment, heavy table and table stabilizer, ready to operate.....			\$385		\$693		\$1,193
Butt welder 1/16-1/2" saw blades.....	125	125	125	125	125	125	125
Air blower.....	22	22	22	22	22	22	22
Table feed.....		85	85	85	85	85	85
Circular cutting attachment.....		15	15	15	15	15	15
Total.....	397	592	632	900	940	1,400	1,440

THE HALL PLANETARY CO., PHILADELPHIA, PA.

Style thread millers	Weight	Base price	Price per foot extra length; approximate only
	<i>Pounds</i>		
"B".....	2,050	\$4,575	\$50
"C".....	4,900	6,400	75
"D".....	7,800	7,600	100

Schedule of prices 1920 to 1940, inclusive. All standard models

"A" MACHINES

Date		Machine Nos.	Price
From—	To—		
1920	1920	A-132.....	\$1,200
1922	1923	A-157 and A-501 to A-504.....	2,400
1924	1925	A-505 to A-528.....	3,100
1926	1928	A-529 to A-552.....	3,270
1929	1933	A-553 to A-577.....	3,300
1934	1937	A-578 to A-598.....	3,630

"B" MACHINES

1926	1929	B1 to B4 and B6.....	\$2,700
1936	1939	B-519 to B-541.....	3,400
1940	1940	B-542 to B-557.....	4,160

"C" MACHINES

1920	1920	C-137 to C-155.....	\$1,900
1921	1921	C-156.....	2,500

THE HALL PLANETARY CO., PHILADELPHIA, PA.—Continued

Schedule of prices 1920 to 1940, inclusive. All standard models—Con.

NEW STYLE

1937	1939	C-502 to C-508.....	\$4,800
1940	1940	C-509 to C-522.....	5,850

"D" MACHINES

1925	1925	D-501 to D-508.....	\$4,900
1926	1929	D-509 to D-533.....	5,100
1930	1932	D-534 to D-562.....	5,150
1933	1933	D-563 to D-565.....	5,300
1934	1936	D-566 to D-588.....	5,665
1937	1939	D-589 to D-619.....	5,750
1940	1940	D-620 to D-652.....	6,975

HAMMOND MACHINERY BUILDERS, INCORPORATED, KALAMAZOO, MICH.

Polishing and buffing lathes

TYPE "C"—3 TO 20 HORSEPOWER

WITH MASTER ELECTRIC CO. MOTOR AND AIR CLEANER

[F. O. B. Kalamazoo, Mich.]

	Price complete
Model 3-C ¹	\$330
Model 5-C ¹	345
Model 3-CH ¹	380
Model 5-CH ¹	395
Model 7-CH, 440-volt, 3-phase, 60-cycle.....	421
Model 7-CH, 220-volt, 3-phase, 60-cycle.....	435
If wanted with push-button control only, no combination switch and brake (deduct).....	15

WITH TOTALLY ENCLOSED FAN-COOLED MOTOR MOUNTED OUTSIDE BASE

Same machine as shown above—Only difference is in motor. (Any standard make totally enclosed fan-cooled motor can be used.)

	Price complete
Model 3-C ¹	\$355
Model 5-C ¹	380
Model 3-CH ¹	405
Model 5-CH ¹	430
Model 7-CH, 440-volt, 3-phase, 60-cycle.....	476
Model 7-CH, 220-volt, 3-phase, 60-cycle.....	490
Model 10-CH.....	555
Model 10-CEH, extra heavy duty.....	655
Model 15-CEH, extra heavy duty.....	685
Model 20-CEH, 440-volt, 3-phase, 60-cycle, extra heavy duty.....	750
Model 20-CEH, 220-volt, 3-phase, 60-cycle, extra heavy duty.....	770
If wanted with push-button control only, no combination switch and brake (deduct).....	15
Also available with two speeds at extra charge of.....	10

HAMMOND MACHINERY BUILDERS, INCORPORATED, KALAMAZOO, MICH.—Continued

Polishing and buffing lathes—Continued

TYPE "R"—3 TO 10 HP.

WITH MOTOR MOUNTED INSIDE BASE

	Price complete
Model 3-RH.....	\$405
Model 5-RH.....	420
Model 7-RH, 440-volt, 3-phase, 60-cycle.....	446
Model 7-RH, 220-volt, 3-phase, 60-cycle.....	460
Model 10-RH (same general specifications as 7-RH except 10 hp. motor).....	595
If wanted with push-button control only—no combination switch and brake (deduct).....	15

TYPE "RO"—OVERHANGING SPINDLE, 3 TO 20 HP.

WITH MOTOR MOUNTED INSIDE BASE

	Price complete
Model 3-ROH.....	\$420
Model 5-ROH.....	435
Model 7-ROH, 440-volt, 3-phase, 60-cycle.....	463
Model 7-ROH, 220-volt, 3-phase, 60-cycle.....	477
Model 10-ROH (same general specifications as 7-ROH except 10 hp. motor).....	510
Model 10-ROEH, extra heavy duty.....	655
Model 15-ROEH, extra heavy duty.....	700
Model 20-ROEH, extra heavy duty.....	750
If wanted with push-button control only—no combination switch and brake (deduct).....	15

TYPE "RR"—TWO-SPINDLE, MOTORS-IN-BASE, 3 TO 7½ HP. EACH SPINDLE

WITH MOTORS MOUNTED INSIDE BASE

	Price complete
Model 3-RR.....	\$610
Model 5-RR.....	650
Model 7-RRW, 440-volt, 3-phase, 60-cycle.....	710
Model 7-RRW, 220-volt, 3-phase, 60-cycle.....	738
If wanted with push-button control only—no combination switch and brake (deduct).....	30

TYPE "RRH"—TWO-SPINDLE, MOTORS-IN-BASE, 10 TO 15 HP. EACH SPINDLE

WITH MOTORS MOUNTED INSIDE BASE

	Price complete
Model 10-RRH.....	\$998
Model 15-RRH.....	1,050
If wanted with push-button control only—no combination switch and brake (deduct).....	30

TYPE "CCO"—OVERHANGING—MOTORS ON REAR OF PEDESTAL

	Price
Model 3-CCO with open ball bearing motors.....	\$630
Model 3-CCO with totally enclosed fan cooled motors.....	676
Model 5-CCO with open ball bearing motors.....	754
Model 5-CCOH with totally enclosed fan cooled motors.....	810
Model 7-CCOH, 440 volt, 3 phase, 60 cycle, with open ball bearing motors.....	809
Model 7-CCOH, 440 volt, 3 phase, 60 cycle, with totally enclosed fan cooled motors.....	887
For 220 volt, 3 phase, 60 cycle, service on model 7-CCOH only (add).....	28
If wanted with push button control only—no combination switch and brake (deduct).....	30

HAMMOND MACHINERY BUILDERS, INCORPORATED, KALAMAZOO, MICH.—Continued

Polishing and buffing lathes—Continued

TYPE "RV" AND "RRV"

MODEL "VRO" VARIABLE SPEED POLISHING LATHE

	Price
Model 3-VRO.....	\$535
Model 5-VRO.....	550
Model 7-VRO, 440 volt, 3 phase, 60 cycle.....	576
Model 7-VRO, 220 volt, 3 phase, 60 cycle.....	590
If wanted with push button control only—no combination switch and brake (deduct).....	15

TYPE "RRW" WIDE SWING—TWO SPINDLE

	Price
Model 3-RRWA.....	\$640
Model 3-RRWB.....	650
Model 5-RRWA.....	680
Model 5-RRWB.....	690
Model 7-RRWA, 440 volt, 3 phase, 60 cycle, a. c.....	740
Model 7-RRWA, 220 volt, 3 phase, 60 cycle, a. c.....	768
Model 7-RRWB, 440 volt, 3 phase, 60 cycle, a. c.....	750
Model 7-RRWB, 220 volt, 3 phase, 60 cycle, a. c.....	778
If wanted with push button control only—no combination switch and brake (deduct).....	30

TYPE "R" MOTOR-IN-BASE 2 OR 3 HP.

	Price
Model 2-R with manual starter having overload protection.....	\$267
Model 3-R with manual starter having overload protection.....	275
Extra for magnetic starter.....	12
Extra for combination switch and brake.....	15

ACCESSORIES

	Price
Adjustable exhaust hoods, per pair of 2.....	\$40.00
Taper points:	
For 1" diameter spindles (each).....	2.75
For 1 1/4" diameter spindles (each).....	3.25
Foot operating brake can be had instead of hand brake on all models except 2-spindle machines at an extra cost per machine of.....	15.00
Flat top shelf—same as used on type "R," can be had on all models without extra charge.	

TYPE "C-2" TWO SPEED, 3 AND 5 HP.

Add \$10 to prices of 3-C, 5-C, 3-CH, and 5-CH rite speeds as listed in column 1, page 1, of this price list. Available in 3 and 5 hp. sizes only.

LOW BASE—NO. 10

No. 10 with single tight pulley.....	\$105.00
No. 10 with tight and ball bearing loose pulley.....	120.00

TYPE "RO" COMBINATION GRINDER AND POLISHER

With 3 hp. motor, 14" boiler plate guard.....	\$450.00
With 5 hp. motor, 14" boiler plate guard.....	465.00
With 7 1/2 hp., 440 volt, a.c. motor, 14" guard.....	491.00
With 7 1/2 hp., 220 volt, a.c. motor, 14" guard.....	505.00
If wanted with push button control—no combination switch and brake (deduct).....	15.00

HAMMOND MACHINERY BUILDERS, INCORPORATED, KALAMAZOO, MICH.—Continued

Polishing and buffing lathes—Continued

TYPE "L" MOTOR-ON-SPINDLE

LIGHT DUTY

	Price
1 horsepower, 2-bearing, floor type.....	\$105
2 horsepower, 2-bearing, floor type.....	155
3 horsepower, 2-bearing, floor type.....	170
For bench model (deduct).....	10
Above lathes similar to heavy duty models shown below, but lighter construction.	

HEAVY DUTY—FOUR-BEARING

	Price
3 horsepower.....	\$346
5 horsepower.....	371
7 1/2 horsepower, 440 volt, 3 phase, 60 cycle.....	427
7 1/2 horsepower, 220 volt, 3 phase, 60 cycle.....	441

VICTORY—HEAVY DUTY (2 AND 4 BEARING)

	Price
Victory single pulley.....	\$110
Victory T & L pulley.....	130
Heavy duty 2-bearing, single pulley.....	150
Heavy duty 2-bearing, T & L pulley.....	170
Heavy duty 4-bearing, single pulley.....	165
Heavy duty 4-bearing, T & L pulley.....	185

OTHER BELT DRIVEN MODELS

	Prices on application
No. 9 lathes.....	\$160
No. 12 single pulley.....	180
No. 12 T & L pulley.....	250
No. 5 double spindle.....	
Extra for 4-groove pulley for V-belt drive instead of standard flat belt pulley.....	10

BELT STRAPPING ATTACHMENT

Complete with cross bar, cross bar column, and rest.....	\$85
--	------

TYPE "W" 1 1/2, 2, AND 3 HORSEPOWER—TOTALLY ENCLOSED MOTORS, BENCH AND FLOOR MODELS

1 1/2 horsepower, 10" x 1 1/2", floor A. C. with manual starter having overload protection, no eye shields.....	\$185
1 1/2 horsepower, 12" x 2" wheels, floor A. C. with manual starter having overload protection, no eye shields.....	187
2 horsepower, 12" x 2", floor A. C. with manual starter having overload protection, no eye shields.....	195
3 horsepower 14" x 3", A. C. with manual starter having overload protection, no eye shields.....	245
Extra for eye shields, per machine.....	5
Extra for magnetic starter.....	12
For bench mounting (deduct).....	25
Prices do not include wheels.	

TYPE "WS" 2 AND 3 HORSEPOWER WIDE-SWING GRINDER—TOTALLY ENCLOSED MOTORS

	Price
2 horsepower, 12" x 2", with manual starter having overload protection.....	\$295
3 horsepower, 14" x 2 1/2", with manual starter having overload protection.....	340
(On above models, distance between wheels, 30".)	
Extra for eye shields.....	5
Extra for magnetic starter.....	12
3 horsepower, wide-swing heavy duty 4-bearing grinder with magnetic starter, eye shields, 14" x 3" boiler plate wheel guards (distance between wheels 36").....	430

HAMMOND MACHINERY BUILDERS, INCORPORATED, KALAMAZOO,
MICH.—Continued

Polishing and buffing lathes—Continued

TYPE "W" 3, 5, 7½ HP. TOTALLY ENCLOSED AND TOTALLY ENCLOSED FAN COOLED MOTORS

	Price
3 hp. with 14" boiler plate guards, manual starter and totally enclosed motor.....	\$355
With totally enclosed fan cooled motor.....	378
Extra for magnetic starter.....	12
5 hp. with 18" boiler plate guards, magnetic starter and totally enclosed motor.....	470
With totally enclosed fan cooled motor.....	509
With 20" guards (add).....	15
7½ hp. with 20" boiler plate guards, 440 volts, 3 phase, 60 cycle, A. C. totally enclosed motor.....	510
With totally enclosed fan cooled motor.....	564
For 220 volts, 3 phase, 60 cycle service in 7½ hp. size only (add)....	14

TYPE "WH" 5 AND 7½ HP. TOTALLY ENCLOSED AND TOTALLY ENCLOSED FAN COOLED MOTORS

5 hp. with 18" boiler plate guards, magnetic starter and totally enclosed motor.....	\$625
With totally enclosed fan cooled motor.....	664
Extra for 20" boiler plate guards instead of 18".....	15
7½ hp. with 20" boiler plate guards, magnetic starter and 440 volts, 3 phase, 60 cycle totally enclosed motor.....	666
With totally enclosed fan cooled motor.....	720
For 220 volts, 3 phase, 60 cycle service in 7½ hp. size only (add)....	14
This 7½ hp. grinder is heavy enough to accommodate 24" wheels. If wanted with 24" boiler plate guards, this would require an 850 r. p. m. motor. For 24" machine (add).....	80
(Not available with larger than 7½ hp. motor.)	
7½ hp. for 20" high-speed wheels, with 440 volts, 3 phase, 60 cycle totally enclosed, 1,750 r. p. m. motor.....	670
With totally enclosed fan cooled motor.....	709
For 220 volts, 60 cycle, 3 phase service in 7½ hp. size only (add)....	14
Extra for large hole steel flanges up to 12" usually employed with high-speed wheels (per machine).....	50

TYPE "DW" COMBINATION DISK AND PRODUCTION GRINDER, 2, 3, 5, AND 7½ HP.

Totally enclosed motors on 2 hp., totally enclosed or totally enclosed fan cooled motors on 3, 5, 7½, hp. sizes.....	
2 hp., 12" with manual starter.....	\$270
2 hp., 12" with magnetic starter.....	282
3 hp., 14", manual starter, totally enclosed motor.....	445
3 hp., 14", manual starter totally enclosed fan cooled motor.....	468
Extra for magnetic starter.....	12
5 hp., 18", magnetic starter, totally enclosed motor.....	541
5 hp., 18", magnetic starter, totally enclosed fan cooled motor.....	580
7½ hp., 20" magnetic starter, totally enclosed motor for 440 volts, 3 phase, 60 cycle.....	567
7½ hp., 20" with magnetic starter and totally enclosed fan cooled motor for 440 volts, 3 phase, 60 cycle.....	621
Extra for 220 volts, 3 phase, 60 cycle, in 7½ hp. sizes only.....	14
Prices include steel guard for grinding wheel, disk, and plain table. If lever feed table is wanted, add \$50.00.	

HAMMOND MACHINERY BUILDERS, INCORPORATED, KALAMAZOO,
MICH.—Continued

Polishing and buffing lathes—Continued

TYPE "D" DOUBLE DISK 3, 5, 7½ HP. TOTALLY ENCLOSED AND TOTALLY ENCLOSED FAN COOLED MOTORS

	Price
3 hp., 14", manual starter, totally enclosed motor.....	\$520
3 hp., 14", manual starter, totally enclosed fan cooled motor.....	543
Extra for magnetic starter.....	12
5 hp., 18", magnetic starter, totally enclosed motor.....	601
5 hp., 18", magnetic starter, totally enclosed fan cooled motor.....	640
7½ hp., 20", magnetic starter, totally enclosed motor for 440 volts, 3 phase, 60 cycle.....	657
7½ hp., 20", magnetic starter, totally enclosed fan cooled motor for 440 volts, 3 phase, 60 cycle.....	711
Extra for 220 volts, 3 phase, 60 cycle in 7½ hp. sizes only.....	14
Prices include two disks, one plain and 1 lever feed table.	
If equipped with two plain tables, deduct.....	50
If equipped with two lever feed tables (add).....	50

TYPE "RW" MULTI-V BELT DRIVE 1 TO 2 HP. TOTALLY ENCLOSED MOTOR

1 hp., 220-440 volt, 3 phase, 60 cycle for 10" x 1½" wheels, cast iron guards, with manual starter having overload protection, no eye shields or wheels.....	Price \$221
Extra for 1 hp., 25-cycle motor.....	28
If wanted with 12" guards (add).....	5
2 hp., 220-440 volts, 3 phase, 60 cycle, as above except for 12" x 2" wheels.....	240
Extra for 2 hp., 25-cycle motor.....	40
Extra for shatterproof eye shields (per machine).....	5
Extra for magnetic starter.....	12

TYPE "LW"

	Price
1½ hp., 10" x 1½", floor, A. C. with manual starter.....	\$203
2 hp., 12" x 2", floor, A. C. with manual starter.....	248
For bench mounting, deduct from above prices.....	25
Extra for magnetic starter, both sizes.....	12

RITE-SPEED ELECTRIC GRINDER—3, 5, AND 7½ HP. TOTALLY ENCLOSED FAN COOLED MOTOR

3 hp. rite-speed, 4-bearing, spindle 46" long over-all, 35" between wheels, with 14" boiler plate guards and 3 hp., A. C. 1,800 R. P. M. totally enclosed fan cooled motor, no wheels.....	Price \$445
5 hp., same as above.....	470
5 hp. rite-speed electric grinder, same as above except with 16" boiler plate guards and 1,200 r. p. m. motor.....	515
7½ hp., extra heavy rite-speed, 4-bearing, spindle 50" long over-all, 39" between wheels with 18" boiler plate wheel guards, no wheels.....	775

TYPE "WRO" OVERHANGING SPINDLE GRINDER FOR LARGE AND BULKY PIECES, SPINDLE 52" LONG OVER-ALL, WHEEL SPACING 40" BETWEEN CENTERS

	Price
3-WRO with 3 hp., A. C., 60-cycle motor, 14" exhaust type wheel guards, no work rests.....	\$450
5-WRO with 5 hp., A. C., 60-cycle motor 14" exhaust type wheel guards, no work rests.....	465
Extra for work rests (per machine).....	15
This Grinder is the same as the type "RO" Polishing Lathe, except it is fitted with boiler plate guards for grinder purposes. An excellent Grinder where extra working space is required around the wheels.	

HAMMOND MACHINERY BUILDERS, INCORPORATED, KALAMAZOO, MICH.—Continued

Polishing and buffing lathes—Continued

TYPE "WR" "MULTI-HI SPEED" 10, 15, AND 20 HP.

MOTORS-IN-BASE FOR VITRIFIED OR HIGH-SPEED WHEELS

	Price
10 hp., 2-speeds, 20" boiler plate wheel guards	\$1,095
10 hp., 2-speeds, 24" boiler plate wheel guards	1,125
10 hp., 3-speeds, 24" boiler plate wheel guards	1,225
If totally enclosed fan cooled motor wanted (add)	54
15 hp., 2-speeds, 24" boiler plate wheel guards	1,150
15 hp., 3-speeds, 24" boiler plate wheel guards	1,250
If totally enclosed fan cooled motor wanted, (add)	53
20 hp., 2-speeds, 24" boiler plate wheel guards	1,185
20 hp., 3-speeds, 24" boiler plate wheel guards	1,285
If totally enclosed fan cooled motor wanted, (add)	79
Extra for 30" boiler plate guards instead of 24" (per machine)	60
Extra for large hole steel flanges up to 12", usually employed with high-speed wheels (per machine)	50

ACCESSORIES FOR GRINDERS

	Price
Extra for foot treadle switch, all models	\$15

Type "J" rotary automatic polishing machines, with tables 21", 23", 31", and 34" in diameter

INDEXING TYPE

[For continuous rotating table machines, see models "M" and "MB" below]

Model	Horsepower of motor	Type of drive	Table diameter	Number of heads	Number of work spindles	Type of head	Price
S	1½	Motor-on-spindle	Inches	3	8	Nonlift	\$2,125
S	2	do	21	3	8	do	2,155
S	3	do	21	3	8	do	2,190
S	5	do	21	3	8	do	2,270
S	7½	do	21	3	8	do	2,360
SL	1½	do	21	3	8	Lifting	2,630
SL	2	do	21	3	8	do	2,660
SL	3	do	21	3	8	do	2,695
SL	5	do	21	3	8	do	2,780
SB	2	Multi-V belt	21	3	8	Nonlift	2,650
SB	3	do	21	3	8	do	2,675
SB	5	do	21	3	8	do	2,750
SBL	2	do	21	3	8	Lifting	3,280
SBL	3	do	21	3	8	do	3,315
S-6	3	Motor-on-spindle	34	4	6	Nonlift	2,790
S-6	5	do	34	4	6	do	2,830
SB-6	3	Multi-V belt	34	4	6	do	3,430
SB-6	5	do	34	4	6	do	3,490
SBL-6	3	Multi-V belt (multi-V belt lifting heads not supplied over 3 horsepower)	34	4	6	Lifting	4,030
SS	1-5	Motor-on-spindle	31	3	8	Nonlift	3,020
SSB	2-7½	Multi-V belt	31	3	8	do	3,575

CONTINUOUS ROTATING TYPE WITHOUT ELECTRO-MAGNETIC CHUCKS

Model	Horsepower	Type of drive	Table diameter	Number of heads	Number of work spindles	Type of head	Price
M	3	Motor-on-spindle	23	3	8	Nonlift	2,615
M	5	do	23	3	8	do	2,695
MB	3	Multi-V belt	23	3	8	do	3,315
MB	5	do	23	3	8	do	3,400

¹ 5 horsepower maximum size of this model.

² Independent heads.

Price of "J" base and table without heads (table having 8 work spindles) is \$1,045. Therefore, if "J" with floor supported (independent heads) is wanted, add to this price for the number and kind of independent heads wanted.

HAMMOND MACHINERY BUILDERS, INCORPORATED, KALAMAZOO, MICH.—Continued

Type "J" rotary automatic polishing machines, with tables 21", 23", 31", and 34" in diameter—Continued

	Price
1-RW—Spec	\$155.15
2-RW—Spec	198.00
10-WWH	976.80
2-CW	356.00
CDH-26-30" disk grinder (without disks)	959.25
CDH-18-20" disk grinder (without disks)	496.00

This price list covers special grinders—sold to one customer only.

HANCHETT MANUFACTURING CO., BIG RAPIDS, MICH.

SURFACE GRINDERS (STANDARD)

Description	Diameter of table available	Weight	Price
Rotary, standard:	Inches	Pounds	
No. 36	40	20,000	\$7,950
No. 36-A	30	15,000	7,900
No. 36-A2	30	27,500	10,500
No. 24-A	24	12,000	6,000
No. 24-A2	24	22,000	7,800
No. 72	26,000	14,375	
Rotary plano, standard:		75,000	18,000
	Table lengths available	Weight in 60" length	
	Inches	Pounds	
Vertical spindle, standard:	36-84	16,500	6,825-8,340
300	50-132	24,000	8,925-12,335
400	60 and 120	32,000	17,850-19,850
400SS			

BADGER GRINDERS, STANDARD WITH BUILT-IN MOTOR DRIVE

Description	Weight	Price	Description	Weight	Price
	Pounds			Pounds	
2	650	\$550	206	1,500	\$750
4	1,600	786	214	3,600	1,500
6	2,800	968	220	6,000	2,255
7	3,100	1,165	221	9,000	2,720
8	4,000	1,430	228	15,000	3,300
9	5,500	2,200	230	18,000	4,070
153, 53" disk	7,240	2,435			

¹ Belted type motor drive.

FACE GRINDERS (STANDARD)

Model No.	Capacities	Weight	Price	Model No.	Capacities	Weight	Price
	Inches	Pounds			Inches	Pounds	
900	60-218	24,000-29,000	\$8,500-\$15,370	3000	60-218	14,000-26,000	\$5,685-\$9,085
1000	60-218	22,000-37,000	7,795-12,285	4000		13,000-21,500	4,600-7,970
2000	60-218	16,000-29,000	6,310-9,890				

PLANO SURFACE GRINDERS

Width of table	Table lengths	Weight	Prices
			Straight wheel, standard
			Vertical spindle segmental wheel
Inches	Inches	Pounds	
30	72-220	45,000 and up	\$17,650 and up
50	72-220	85,000 and up	\$27,000 and up

HANCHETT MANUFACTURING CO., BIG RAPIDS, MICH.—Continued
TRAVELING WHEEL GRINDERS (STANDARD)

Model number	Lengths	Weight	Price
	<i>Inches</i>	<i>Pounds</i>	
500 UK.....	84-170	20,000-32,000	\$7,320-\$10,115.
600 UK.....	84-170	33,000-54,000	13,105-18,300.
700 UK.....	84-170	58,000-75,000	20,960-28,635 and up.

SWING ARM GRINDERS (STANDARD)

Model number	Weight	Price
	<i>Pounds</i>	
700.....	2,500	\$955
800.....	3,500	1,420

No. 14 automatic grinder, standard, 500 pounds..... \$237

THE HANSON-WHITNEY MACHINE CO., HARTFORD, CONN.

4" x 9" THREAD MILLING MACHINE

[Regular equipment, including machine with two motors, one each for work head and cutter head, and controller, regular headstock with draw-back collet mechanism and 2" master collet, cutter head with arbor and support]

Tailstock and one lead cam for any pitch specified..... \$4, 600
Extra charge for applying motors if sent to us by customer..... 20
Extra lead cams, each..... 15

8" x 16" THREAD MILLING MACHINE

[Regular equipment, including machine with two motors, one each for work head and cutter head, and controller, regular headstock with draw-back collet mechanism and either 2" or 3" master collet, cutter head with arbor and support]

Tailstock and one lead cam for any pitch specified..... \$5, 950
Extra charge for bed 74" long..... 700
Extra charge for applying motors if sent to us by customer..... 20
Extra lead cams, each..... 15
Relieving attachment with one cam..... 190
Extra relief cams, each..... 45

10" x 24" THREAD MILLING MACHINE

[Regular equipment, including machine with two motors, one each for work head and cutter head, and controller, regular headstock with draw-back collet mechanism with either 2½" or 4" master collet; cutter head with arbor and support]

Tailstock and one lead cam for any pitch specified..... \$6, 750
10" x 48" machine with bed 84" long..... 7, 685
Extra for machine with 19" swing..... 1, 320
Extra for machine with 22" swing..... 1, 350
Extra for extended cross slide..... 200
Extra charge for applying motors if sent to us by customer..... 20
Extra lead cams, each..... 15
Relieving attachment with one cam..... 190
Extra relief cams, each..... 45

HARDINGE BROTHERS, INC., ELMIRA, N. Y.

Open Cone Plain Bearing Lathe with slide rest..... \$400
Open Cone Ball Bearing Lathe with slide rest..... 425
Enclosed Head Ball Bearing Lathe with pedestal drive and slide rest..... 950
Enclosed Head Ball Bearing Lathe with bench drive and slide rest..... 850
Plain Bearing Cone Style Vertical Milling Machine..... 535
Plain Bearing Cone Style Horizontal Milling Machine..... 530
Ball Bearing Cone Style Horizontal Milling Machine..... 555

R-G-HASKINS CO., CHICAGO, ILL.

Haskins no. 1-C air-controlled tapping machine, recommended for handling taps up to and including No. 10 or ⅝" in mild steel and ¼" in brass, less tap lubricant pump, for operation on—
110 or 220 volt, 60 cycle, single-phase current..... \$530. 00
220 or 440 volt, 60 cycle, 3-phase current..... 530. 00
550 volt, 60 cycle, 3-phase current..... 540. 00
115 or 230 volt direct current..... 545. 00

Haskins no. 2-C air-controlled tapping machine, recommended for handling taps from No. 8 to ⅝" in mild steel and ⅜" in brass, less tap lubricant pump, for operation on—
110 or 220 volt, 60 cycle, single-phase current..... 570. 00
220 or 440 volt, 60 cycle, 3-phase current..... 570. 00
550 volt, 60 cycle, 3-phase current..... 580. 00
115 or 230 volt direct current..... 585. 00

Haskins no. 3-C air-controlled tapping machine, recommended for handling taps from No. 10 to ½" S. A. E. in mild steel or brass, less tap lubricant pump, for operation on—
220 or 440 volt, 60 cycle, 3-phase current..... 640. 00
550 volt, 60 cycle, 3-phase current..... 650. 00
115 or 230 volt direct current..... 655. 00

Haskins single shot, air-operated lubricant pump mounted on any of the above machines..... 40. 00

Haskins continuous flow, motor-driven lubricant pump mounted on any of the above machines—
110 to 220 volt, 60 cycle, single phase..... 75. 00
220 volt, 60 cycle, 3 phase..... 75. 00
440 volt, 60 cycle, 3 phase..... 80. 00
550 volt, 60 cycle, 3 phase..... 85. 00
115 or 230 volt direct current..... 90. 00

Work tables. Specifications listed in catalog indicate size of standard work table for each machine. Larger tables may be substituted for standard table at the following additional prices:

11½" x 14¾" table for nos. 1-C and 2-C..... 8. 00
12" x 21¼" table for nos. 1-C and 2-C machines..... 16. 00
12" x 21¼" table for no. 3-C machine..... 12. 00
Reversing switch (for left-hand tapping)..... 16. 50
Dirt and moisture trap..... 6. 00

	Weight of equipment (pounds)
No. 1-C tapper:	
Net weight with air-operated oil pump.....	366
Net weight with motor-driven oil pump.....	387
Weight crated with air-operated oil pump.....	466
Weight crated with motor-driven oil pump.....	487
No. 2-C tapper:	
Net weight with air-operated oil pump.....	374
Net weight with motor-driven oil pump.....	395
Weight crated with air-operated oil pump.....	474
Weight crated with motor-driven oil pump.....	495
No. 3-C tapper:	
Net weight with air-operated oil pump.....	576
Net weight with motor-driven oil pump.....	597
Weight crated with air-operated oil pump.....	702
Weight crated with motor-driven oil pump.....	723

THE HEALD MACHINE CO., WORCESTER, MASS.

BORING MACHINES

[Complete with motors and controls, water attachments, and all standard equipment, but without boring heads, quills, and tools]

No.	Approximate weight	Price	No.	Approximate weight	Price
	<i>Pounds</i>			<i>Pounds</i>	
44, facing machine.....	5,500	\$3,650	47A.....	5,100	\$3,695
45, single end.....	11,000	6,250	48A.....	2,800	2,240
45, double end.....	13,000	8,500	49, single end.....	5,150	3,500
46B, single end.....	7,500	4,550	49, double end.....	5,650	3,815
46B, double end.....	8,000	4,950	49, universal chucker.....	6,000	3,650

ROTARY SURFACE GRINDING MACHINES

[Complete with all standard equipment, including magnetic chuck, grinding wheel, mounted diamond, belts, and wrenches. Motor-driven machine prices include motors and controls]

No.	Approximate weight	Price	No.	Approximate weight	Price
	<i>Pounds</i>			<i>Pounds</i>	
22, 8" belt drive.....	3,650	\$3,455	25A, 12" motor drive.....	7,250	\$6,165
22, 8" motor drive.....	3,750	3,780	25A, 16" belt drive.....	7,800	5,990
22, 12" belt drive.....	3,675	3,545	25A, 16" motor drive.....	7,900	6,240
22, 12" motor drive.....	3,775	3,870	25A, 24" motor drive.....	8,900	7,725
25A, 12" belt drive.....	7,150	5,915	25A, 30" motor drive.....	9,100	8,585

CYLINDER GRINDING MACHINES

[Complete with all standard equipment, including 38" cross slidetable, standard 7 1/4", 10", 11"-18", 18" or 18" wheel spindle and arm as specified, grinding wheel, mounted diamond, and necessary wrenches, but without pump, tank, and water attachments. Motor-driven machine prices include motors and controls]

No.	Approximate weight	Price	No.	Approximate weight	Price
	<i>Pounds</i>			<i>Pounds</i>	
50, belt drive.....	5,800	\$8,775	55, belt drive.....	4,500	\$5,510
50, motor drive.....	6,000	7,145	55, motor drive.....	4,700	5,975

INTERNAL GRINDING MACHINES

[Complete with all standard equipment including workhead and wheelhead cross slide but not including wheelheads, fixtures, or pump, tank and water attachments. Motor-driven machine prices include motors and controls]

No.	Approximate weight	Price	No.	Approximate weight	Price
	<i>Pounds</i>			<i>Pounds</i>	
70A, belt drive.....	5,100	\$4,265	72A-5, electric indicator 3-motor drive.....	7,750	\$8,635
70A-3, motor drive.....	5,300	5,140	72A-3, size-matic belt drive.....	5,700	7,660
72A-3, plain belt drive.....	5,600	5,360	72A-5, size-matic belt drive.....	7,450	8,480
72A-3, plain 2-motor drive.....	7,350	5,755	72A-3, size-matic 2-motor drive.....	5,900	7,795
72A-5, plain 2-motor drive.....	5,800	5,500	72A-5, size-matic 2-motor drive.....	7,650	8,190
72A-5, plain 2-motor drive.....	7,550	5,895	72A-5, size-matic 3-motor drive.....	7,750	8,635
72A-3, plain 3-motor drive.....	5,900	5,945	72A-3, gage-matic belt drive.....	6,000	8,240
72A-5, plain 3-motor drive.....	7,650	6,340	72A-5, gage-matic belt drive.....	7,750	8,635
72A-3, dial indicator belt drive.....	5,800	5,810	72A-5, gage-matic 2-motor drive.....	6,000	8,410
72A-5, dial indicator belt drive.....	7,550	6,205	72A-5, gage-matic 2-motor drive.....	7,750	8,805
72A-3, dial indicator 2-motor drive.....	6,000	5,950	72A-5, gage-matic 2-motor drive.....	6,200	8,645
72A-5, dial indicator 2-motor drive.....	7,750	6,345	72A-5, gage-matic 2-motor drive.....	7,950	8,940
72A-3, dial indicator 3-motor drive.....	6,100	6,395	72A-5, gage-matic 3-motor drive.....	6,300	8,990
72A-5, dial indicator 3-motor drive.....	7,850	6,790	75A, belt drive.....	8,050	9,385
72A-3, electric indicator belt drive.....	5,700	7,660	75A, 2-motor drive.....	3,800	3,260
72A-5, electric indicator belt drive.....	7,450	8,055	72, size-matic duplex.....	4,000	3,975
72A-3, electric indicator 2-motor drive.....	5,900	7,795	73, airplane cylinder grinder.....	14,000	15,420
72A-5, electric indicator 2-motor drive.....	7,650	8,190	74, plain.....	11,500	8,480
72A-3, electric indicator 3-motor drive.....	6,000	8,240	172, gap base.....	12,000	8,690
			174, gap base.....	11,800	7,775
			81, plain chucker.....	16,000	9,880
			81, size-matic chucker.....	4,375	5,025
			81, gage-matic chucker.....	4,375	7,220
			81, plain (hand loading) center.....	4,375	7,480
			less.....	5,400	8,430
			81, size-matic centerless.....	5,400	9,950
			81, gage-matic centerless.....	5,400	9,950

THE HEALD MACHINE CO., WORCESTER, MASS.—Continued

OBSOLETE HEALD GRINDING MACHINES (SEE NOTE)

[The following Heald machines are now obsolete. The last quotations were made in the years designated and the prices are those quoted at that time]

No.	Price	Year	No.	Price	Year
20.....	\$1,950	1929	200.....	\$690	1919
60.....	2,100	1922	210.....	750	1919
65.....	2,350	1927	255.....	1,300	1919
80.....	1,600	1929	260.....	1,950	1921
85.....	750	1929			

NOTE.—Compare following obsolete models as shown below:

No. 20—Rotary surface grinder to No. 22.
No. 255—Rotary surface grinder to No. 22.
No. 65—Planetary cylinder grinder to No. 80.
No. 60—Planetary cylinder grinder to No. 55.

THE HENDEY MACHINE CO., TORRINGTON, CONN.

HENDEY CONE TYPE LATHES—TIE BAR HEADSTOCK

Size lathe	Approximate net weight	Price	Extra per 2 feet bed
	<i>Pounds</i>		
12" x 30".....	2,000	\$2,050	\$120
14" x 30".....	2,250	2,160	130
16" x 30".....	3,350	2,475	140
18" x 30".....	3,500	2,900	160
20" x 48".....	4,600	3,260	200

HENDEY 18-SPEED GEARED HEAD LATHES

12" x 30".....	2,900	\$3,620	\$130
14" x 30".....	3,550	3,895	150
16" x 30".....	4,800	4,505	170

HENDEY 12-SPEED GEARED HEAD LATHES

12" x 30".....	2,900	\$3,420	\$130
14" x 30".....	3,550	3,685	150
16" x 30".....	4,800	4,225	170
18" x 30".....	6,100	4,835	180
20" x 48".....	6,600	5,465	200
24" x 48".....	7,350	6,050	220

HENDEY 4C 12-SPEED GEARED HEAD LATHE

14" x 42".....	4,500	\$3,990	\$150
----------------	-------	---------	-------

HENDEY CRANK SHAPERS

12" high speed universal.....	2,850	\$2,750	-----
16" heavy duty.....	4,800	3,020	-----
20" standard.....	5,000	3,100	-----
20" heavy duty.....	5,900	3,270	-----
24" standard.....	6,100	3,350	-----
24" heavy duty.....	8,100	3,900	-----
28" standard.....	8,500	3,980	-----

HENDLEY & WHITEMORE, BELOIT, WIS.

Punches, shears, and bending rolls

COMBINED POWER PUNCHES AND SHEARS (BELT DRIVE) PRICES AND SPECIFICATIONS

Size number	Throat depth	Capacity punch ¹	Shear flat bars	Shear rounds	Shear angles	Stroke	Approximate weight skidded	List price
	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Pounds</i>	
51.....	5	¾ through ¾	¾ x 2 or ¾ x 4	¾	¾ x 1½	¾	1,050	\$350
52.....	6	¾ through ¾	¾ x 4 or ¾ x 6	1	¾ x 2	¾	1,650	380
53.....	7	¾ through ¾	¾ x 4 or ¾ x 6	1¼	¾ x 3	¾	2,350	500
54.....	8	¾ through ¾	¾ x 4 or ¾ x 6	1½	¾ x 3	1½	3,250	650
55.....	10	1 through ¾	¾ x 4 or ¾ x 6	1¾	¾ x 4	1	5,000	800
55½.....	12	1 through 1	1 x 6	2	¾ x 4	1½	8,500	1,500
56.....	12	1½ through 1	1 x 8	2½	¾ x 5	1½	11,000	2,000

¹ All ratings based on mild steel.

ALLIGATOR SHEARS (BELT DRIVE), PRICES AND SPECIFICATIONS

Size number	Capacity rounds ¹	Capacity flats ¹	Size blades	Weight	List price
	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Pounds</i>	
46.....	1	4 x ½	6 and 9	1,300	\$320
46½.....	1½	6 x ½	6½ and 10	2,150	440
47.....	1¾	6 x ¾	7 and 12	2,800	500
48.....	2	6 x 1	7 and 12	4,600	700
49.....	2½	8 x 1	10 and 15	8,000	1,250

¹ All ratings based on mild steel.

ALLIGATOR SHEARS (BELT DRIVE) PRICES AND SPECIFICATIONS

Size No.	Capacity rounds ¹	Capacity squares ¹	Size blades	Domestic shipping weight	List price
	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Pounds</i>	
1.....	1	¾	4½ and 7	1,250	\$280
1½.....	1½	1¾	7 and 12	4,000	750
2.....	2	1¾	7 and 12	5,800	880
2½.....	2½	2¼	10 and 15	8,400	1,350

¹ Ratings based on soft steel.

SPLITTING SHEARS PRICES AND SPECIFICATIONS

Size No.	Splitting capacity ¹	Length shear blades	Approximate weight skidded	List price
	<i>Inches</i>	<i>Inches</i>	<i>Pounds</i>	
40.....	¾	6½	650	\$190
41.....	¾	6½	750	220
42.....	¾	7	1,150	290
43.....	¾	10	2,000	300
44.....	¾	12	2,750	370
25.....	¾	10	1,800	500
26.....	¾	12	3,000	650
27.....	¾	12	4,000	750

¹ Ratings based on soft steel.

HENDLEY & WHITEMORE, BELOIT, WIS.—Continued

Punches, shears, and bending rolls—Continued

DOUBLE END COMBINED POWER PUNCHES AND SHEAR (BELT DRIVE) PRICES AND SPECIFICATIONS

Size No.	Punching capacity	Punch throat depth ¹	Shearing			Stroke		Approximate weight skidded	List price
			Round bars	Flat bars	Angles	Punch end	Shear end		
	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Pounds</i>	
9-A-----	$\frac{1}{2}$ x $\frac{1}{2}$	12	1	$\frac{1}{2}$ x 4	$\frac{1}{2}$ x 3	$\frac{3}{8}$	$\frac{1}{4}$	2,800	\$750
9-B-----	$\frac{3}{8}$ x $\frac{3}{8}$	12	$\frac{1}{4}$	$\frac{3}{8}$ x 5	$\frac{3}{8}$ x 3	1	$\frac{1}{8}$	3,800	880
9-C-----	$\frac{3}{4}$ x $\frac{3}{4}$	12	$\frac{1}{2}$	$\frac{3}{4}$ x 6	$\frac{3}{4}$ x 4	$\frac{1}{4}$	$\frac{1}{2}$	5,400	1,000
9-D-----	1 x 1	12	$\frac{1}{4}$	1 x 6	$\frac{1}{2}$ x 4	$\frac{1}{2}$	2	11,000	2,000

¹ Ratings based on soft steel.

SINGLE END COMBINED POWER PUNCHES AND SHEAR (BELT DRIVE) PRICES AND SPECIFICATIONS

Size No.	Throat depth	Approximate weight skidded	List price	Size No.	Throat depth	Approximate weight skidded	List price
	<i>Inches</i>	<i>Pounds</i>			<i>Inches</i>	<i>Pounds</i>	
57.....	6	1,350	\$320	A-12.....	12	3,050	\$690
58.....	12	1,450	340	A-18.....	18	3,750	750
59.....	18	1,800	380	A-24.....	24	4,700	820
60.....	24	2,300	440	A-36.....	36	6,000	1,000
61.....	30	2,800	500	B-12.....	12	5,000	940
62.....	36	3,200	550	B-24.....	24	6,350	1,070
63.....	45	4,450	750	B-36.....	36	8,500	1,250
A-6.....	6	2,650	620				

PYRAMID TYPE BENDING ROLLS (BELT DRIVE) PRICES AND SPECIFICATIONS

Size No.	Capacity	Length	Diameter top roll	Diameter lower rolls	Approximate weight	List price
	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Pounds</i>	
10A.....	¾	30	6	5	3,125	\$750
10B.....	¾	62	6	5	3,350	820
10C.....	¾	74	6½	6	4,000	940
10D.....	¾	86	6½	6	4,350	1,000
10E.....	¾	98	6½	6	4,700	1,050
10F.....	¾	110	6½	6	5,250	1,100
11A.....	¾	62	7	6½	4,100	940
11B.....	¾	74	7	6½	4,600	1,000
11C.....	¾	86	7	6½	5,200	1,070
11D.....	¾	98	7	6½	5,700	1,160
11E.....	¾	110	7	6½	6,200	1,250
11F.....	¾	122	7	6½	6,700	1,350
12A.....	¾	62	7½	7	5,675	1,220
12B.....	¾	74	7½	7	6,150	1,280
12C.....	¾	86	7½	7	6,700	1,380
12D.....	¾	98	8	7	7,300	1,570
12E.....	¾	110	8	7	8,000	1,630
12F.....	¾	122	8	7	8,700	1,750
13A.....	¾	62	8½	7½	7,050	1,380
13B.....	¾	74	8½	7½	7,800	1,500
13C.....	¾	86	8½	7½	8,550	1,630
13D.....	¾	98	8½	7½	9,875	1,690
13E.....	¾	110	8½	7½	9,700	1,820
13M.....	¾	122	8½	7½	10,250	1,900
13D.....	¾	98	9	7½	9,150	1,730
13E.....	¾	86	9½	8	9,325	1,820
13F.....	¾	98	10	8½	10,325	1,940
13G.....	¾	122	10	8½	11,765	2,200
14A.....	¾	146	12	9	18,600	3,080
14B.....	¾	122	12	9	17,050	2,800
14C.....	¾	146	13	9½	20,300	3,200
14D.....	¾	74	10½	9½	10,700	2,000
14E.....	¾	98	12	9	15,000	2,600
14F.....	¾	122	13	9½	18,000	3,000
14G.....	¾	146	14	10	21,500	3,800

HENDLEY & WHITTEMORE, BELOIT, WIS.—Continued

Punches, shears, and bending rolls—Continued

INITIAL TYPE BENDING ROLLS (BELT DRIVE) PRICES AND SPECIFICATIONS

Size No.	Capacity ¹	Diameter top roll	Diameter lower roll	Length	Approximate shipping weight	List price
		Inches	Inches	Inches	Pounds	
1-A	10 GA.	4 1/4	4 1/4	38	1,650	\$300
1-B	11 GA.	4 1/4	4 1/4	44	1,750	380
1-C	12 GA.	4 1/4	4 1/4	50	1,850	400
1-D	14 GA.	4 1/4	4 1/4	62	2,000	440
1-E	16 GA.	4 1/4	4 1/4	74	2,200	470
1-F	18 GA.	4 1/4	4 1/4	86	2,500	500
1-G	20 GA.	4 1/4	4 1/4	98	2,800	540
1-H	22 GA.	4 1/4	4 1/4	122	3,200	600
2-A	8 GA.	4 3/4	4 3/4	38	1,740	380
2-B	9 GA.	4 3/4	4 3/4	44	1,860	400
2-C	10 GA.	4 3/4	4 3/4	50	1,970	420
2-D	11 GA.	4 3/4	4 3/4	62	2,150	470
2-E	14 GA.	4 3/4	4 3/4	74	2,490	510
2-F	15 GA.	4 3/4	4 3/4	86	2,730	570
2-G	16 GA.	4 3/4	4 3/4	98	3,050	630
2-H	18 GA.	4 3/4	4 3/4	122	3,600	750
3-A	14 "	6	6	38	2,750	630
3-B	14 "	6	6	44	2,875	650
3-C	14 "	6	6	50	3,000	680
3-D	14 "	6	6	62	3,250	750
3-E	14 "	6	6	74	3,500	820
3-F	14 "	6	6	86	3,950	880
3-G	10 GA.	6	6	98	4,250	950
3-H	12 GA.	6	6	122	4,800	1,070
4-A	14 "	7	7	38	3,650	750
4-B	14 "	7	7	44	3,825	790
4-C	14 "	7	7	50	4,000	820
4-D	14 "	7	7	62	4,350	900
4-E	14 "	7	7	74	4,850	980
4-F	14 "	7	7	86	5,250	1,050
4-G	14 "	7	7	98	5,600	1,130
4-H	10 GA.	7	7	122	6,300	1,250

¹ Ratings based on soft steel.

HEAVY DUTY SHORT ROLLS (BELT DRIVE) PRICES AND SPECIFICATIONS

Size No.	Capacity ¹	Diameter top roll	Diameter lower roll	Length	Approximate shipping weight	List price
		Inches	Inches	Inches	Pounds	
5-A	14	6	6	14	2,450	\$570
5-B	14	6	6	20	2,600	600
5-C	14	6	6	26	2,750	630
5-D	14	6	6	32	2,900	660
6-A	14	7	7	14	2,700	630
6-B	14	7	7	20	3,000	670
6-C	14	7	7	26	3,300	700
6-D	14	7	7	32	3,600	740

¹ Ratings based on soft steel.

ANGLE BENDING ROLLS

Price belt drive, No. 20A	\$1,250
Specifications:	
Diameter of angle rolls	inches 7
R. p. m. of rolls	14.50
Feet per. minute, angle rolls	26.50
Diameter shafts in bearings	inches 3
Diameter in roll heads	do 2 1/2
Gear ratio	1-22.8
Approximate shipping weight	pounds 2,300

HENDLEY & WHITTEMORE, BELOIT, WIS.—Continued

Punches, shears, and bending rolls—Continued

HAND FORMING ROLLS—BELT DRIVE, SINGLE BACK GEAR, PRICES AND SPECIFICATIONS

BENCH TYPE

Size No.	Capacity	Length	Diameter top roll	Diameter lower roll	Approximate weight	List price
	Gage	Inches	Inches	Inches	Pounds	
1	14	32	3	3	550	\$140
2	14	38	3	3	600	150
3	16	44	3	3	650	170
4	16	50	3	3	700	180
5	18	62	3	3	800	200
6	20	74	3	3	900	220
7	22	86	3	3	1,000	250
8	24	98	3	3	1,100	270

HAND FORMING ROLLS—BELT DRIVE, SINGLE BACK GEAR, PRICES AND SPECIFICATIONS

FLOOR TYPE

Size No.	Capacity	Length	Diameter top roll	Diameter lower roll	Approximate weight	List price
	Gage	Inches	Inches	Inches	Pounds	
11	13	32	3 1/2	3 1/2	740	\$190
12	13	38	3 1/2	3 1/2	800	210
13	14	44	3 1/2	3 1/2	875	230
14	14	50	3 1/2	3 1/2	950	250
15	16	62	3 1/2	3 1/2	1,100	270
16	18	74	3 1/2	3 1/2	1,250	290
17	20	86	3 1/2	3 1/2	1,400	320
18	22	98	3 1/2	3 1/2	1,550	350

HAND FORMING ROLLS—BELT DRIVE, DOUBLE BACK GEAR, PRICES AND SPECIFICATIONS

FLOOR TYPE

Size No.	Capacity	Length	Diameter top roll	Diameter lower roll	Approximate weight	List price
	Gage	Inches	Inches	Inches	Pounds	
21	10	38	4 1/4	4 1/4	1,435	\$300
22	11	44	4 1/4	4 1/4	1,535	320
23	12	50	4 1/4	4 1/4	1,635	340
24	14	62	4 1/4	4 1/4	1,785	380
25	16	74	4 1/4	4 1/4	1,985	410
26	18	86	4 1/4	4 1/4	2,285	440
27	20	98	4 1/4	4 1/4	2,585	480
28	22	122	4 1/4	4 1/4	2,985	540
31	8	38	4 3/4	4 3/4	1,525	320
32	9	44	4 3/4	4 3/4	1,645	340
33	10	50	4 3/4	4 3/4	1,755	360
34	11	62	4 3/4	4 3/4	1,935	410
35	14	74	4 3/4	4 3/4	2,185	450
36	15	86	4 3/4	4 3/4	2,515	510
37	16	98	4 3/4	4 3/4	2,835	570
38	18	122	4 3/4	4 3/4	3,385	660

THE HENRY & WRIGHT MANUFACTURING CO., HARTFORD, CONN.
BELT DRIVE DIEING MACHINES EQUIPPED WITH DOUBLE ROLL FEED AND
BOLSTER PLATE

Machine	Weight	Price	Machine	Weight	Price
	<i>Pounds</i>			<i>Pounds</i>	
10-ton.....	1,750	\$2,500	75-ton.....	25,000	\$8,020
25-ton.....	3,550	2,985	100-ton.....	27,000	8,940
50-ton.....	8,500	4,285	150-ton.....	29,000	9,980
60-ton.....	10,000	5,390			

BELT DRIVE DRILLING MACHINES WITH EXCEPTION OF CLASS "AA" WHICH IS
ALWAYS FURNISHED WITH MOTOR DRIVE MOTORS

Machine No.....	1	2	3	4	5	6	7	8	23	35	47
Number of spindles.....	1	2	3	4	5	6	7	8	2	3	4
Class "AA":											
8" overhang:											
Price.....	\$435	\$775	\$1,115	\$1,450		\$2,130					
Weight..... pounds..	700	1,100	1,400	1,870		3,200					
12" overhang:											
Price.....	\$465	\$840	\$1,225	\$1,580		\$2,335					
Weight..... pounds..	1,070	1,525	1,830	2,390		3,685					
Class "B":											
8" overhang:											
Price.....	\$405	\$675	\$955	\$1,245	\$1,540	\$1,830	\$2,115	\$2,405	\$775	\$1,150	\$1,500
Weight..... pounds..	720	1,200	1,500	1,806	2,500	2,900	3,150	3,400	1,325	2,150	2,625
12" overhang:											
Price.....	\$440	\$740	\$1,065	\$1,390	\$1,720	\$2,045	\$2,375	\$2,700	\$845	\$1,260	\$1,650
Weight..... pounds..	975	1,355	1,650	2,000	2,800	3,200	3,500	3,800	1,475	2,450	2,975
Class "K":											
8" overhang:											
Price.....	\$395	\$660	\$935	\$1,210	\$1,485	\$1,760	\$2,035	\$2,305	\$745	\$1,030	\$1,320
Weight..... pounds..	620	800	1,050	1,425	1,700	1,926	2,170	2,450	1,324	1,500	1,870
12" overhang:											
Price.....	\$425	\$725	\$1,045	\$1,330	\$1,650	\$1,955	\$2,265	\$2,570	\$810	\$1,135	\$1,450
Weight..... pounds..	758	938	1,230	1,565	1,950	2,175	2,480	2,825	1,500	1,750	2,180
Class "L":											
8" overhang:											
Price.....	\$600	\$1,100	\$1,610	\$2,120		\$3,135			\$1,215		
Weight..... pounds..	1,128	1,450	2,324	3,000		5,900			2,350		
12" overhang:											
Price.....	\$640	\$1,175	\$1,725	\$2,270		\$3,370			\$1,290		
Weight..... pounds..	1,175	1,525	2,440	3,370		6,300			2,475		
Class "R", Four speed quick change:											
8" overhang:											
Price.....	\$470	\$830	\$1,205	\$1,550	\$1,925	\$2,275					
Weight..... pounds..	820	1,550	2,300	2,800							
12" overhang:											
Price.....	\$505	\$920	\$1,320	\$1,730	\$2,145	\$2,560					
Weight..... pounds..	1,020	1,900	2,500	3,100							
Class "R", Single purpose including four pairs of pulleys for standard speeds:											
8" overhang:											
Price.....	\$450	\$790	\$1,150	\$1,490	\$1,835	\$2,100					
Weight..... pounds..	820	1,550	2,300	2,800							
Class "R", Single purpose:											
12" overhang:											
Price.....	\$495	\$885	\$1,295	\$1,600	\$2,000	\$2,455					
Weight..... pounds..	1,020	1,800	2,500	3,100							

S. S. HEPWORTH COMPANY, LONG ISLAND CITY, N. Y.

STANDARD STRAIGHT BED TYPE SPINNING LATHES

[Including regular equipment and choice of tailstock style A, B, or D]

15" swing semiball bearing.....	\$415
18" swing semiball bearing.....	445
22" swing semiball bearing.....	500
26" swing semiball bearing.....	600
32" swing semiball bearing.....	1,275
(Tailstock style "A" is standard equipment, style "B" or "D" to special order only.)	
Headstock will be furnished with lugs for future use of oval chuck at an additional charge (to special order only).....	25
All ball bearing headstock, add to price of lathe (to special order only).....	45
Additional length of bed per foot for any size straight bed lathe (to special order only).....	45

STANDARD EXTENSION BED OR GAP TYPE SPINNING LATHES, NOT BACK GEARED

[Including regular equipment and choice of tailstock style A or B on 22" x 44" and 27" x 60" only. (Tailstock style "A" is standard equipment. Style "B" to special order only.)]

22" x 44" swing semiball bearing.....	\$875
27" x 60" swing semiball bearing.....	1,850
32" x 72" swing semiball bearing.....	2,300
27" x 60" swing semiball bearing, extra heavy duty.....	2,300
Headstock will be furnished with lugs for future use of oval chuck at an additional charge (to special order only).....	
All ball bearing headstock on 22" x 44" lathe only, add to price of lathe (to special order only).....	75

STANDARD BACK-GEARED EXTENSION BED OR GAP TYPE SPINNING LATHES

[Including regular equipment, choice of tailstock style A or B on 22" x 44" and 27" x 60" only. (Tailstock style "A" is standard equipment, style "B" to special order only.)]

22" x 44" swing semiball bearing.....	\$1,265
27" x 60" swing semiball bearing.....	2,300
32" x 72" swing semiball bearing.....	2,875
Headstock will be furnished with lugs for future use of oval chuck on 22" x 44" only at an additional charge (to special order only).....	
	25

STANDARD MOTOR-DRIVEN STRAIGHT BED TYPE SPINNING LATHE

[Including regular equipment and choice of tailstock style A, B, or D]

15" swing semiball bearing.....	\$600
18" swing semiball bearing.....	660
For voltages other than 220 volt in 3 phase, 60 cycle, AC, requiring special winding, add to listed prices of motor-driven lathes.....	
	30

OVAL CHUCKS

6" type D.....	\$500
8" type D.....	630
8" special, type D, all steel and bronze construction.....	1,250
Including extra pair of loose and tight pulleys for countershaft, and tailstock plate, when furnished with lathe.	

STANDARD COMPOUND SLIDE REST NO. 5

For 18" lathe.....	\$215
For 22" lathe.....	225
For 26" lathe.....	235
For 22" x 44" extension gap lathe.....	225

THE HIGH SPEED HAMMER CO., INC., ROCHESTER, N. Y.

HIGH SPEED RIVETING HAMMERS

No.	Type	Horizontal gap	Capacity	With AC motor	Arranged for motor drive
		Inches	Inches		
1AA.....	Bench.....	3	3/4 to 3/2	\$215	\$202.15
1AA.....	Pedestal.....	3	3/4 to 3/2	280	217.15
1 1/2 B.....	Bench.....	3	1/2 to 1 1/2	215	202.15
1 1/2 B.....	Pedestal.....	3	1/2 to 1 1/2	280	217.15
2A heavy duty.....	Bench.....	6	3/4 to 3/2	385	333.75
2A heavy duty.....	Pedestal.....	6	3/4 to 3/2	395	343.75
3A.....	do.....	8	3/4 to 3/2	455	406.75
3A heavy duty.....	do.....	8	3/4 to 3/2	570	514.00
4A.....	do.....	11	1 to 1 1/2	675	619.00
5A.....	do.....	14	1 1/2 to 2	1,070	909.00
5 1/2 B.....	do.....	14	1 1/2 to 2	1,545	1,462.00
6B.....	do.....	15 1/2	2 to 2 1/2	2,435	2,327.00
7B.....	do.....	15 1/2	2 to 2 1/2	3,550	2,918.00

ELECTRICAL DATA

Motor driven hammers equipped with motor shelf, direct connected motor installed, including special motor pulley and belt.

Hammers 1AA and 1 1/2 B furnished with 110-volt, single phase, 60-cycle, AC motors; 2AHD to 7B inclusive with 220- or 440-volt, 3 phase, 60-cycle motors.

The above prices do not include motor control.

Prices with DC and other types of AC motors furnished on request.

Drilling machine model R-53 cap. No. 80 1/4

MOTOR SPECIFICATIONS—4 SPEED BENCH TYPE

Complete with 110-volt, single phase, 50- or 60-cycle motor.....	\$185
Complete with 220-volt, single phase, 50- or 60-cycle motor.....	190
Complete with 220-volt, 3-phase, 50- or 60-cycle motor.....	205
Complete with 440-volt, 3-phase, 50- or 60-cycle motor.....	210
Complete with 110-volt, single phase, 25-cycle motor.....	190
Complete with 220-volt, single phase, 25-cycle motor.....	195
Complete with 115-volt, DC motor.....	195
Complete with 230-volt, DC motor.....	200
Pedestal (extra).....	40
Foot treadle for bench or pedestal type (extra).....	5

Deduct \$5 from above prices for 3-speed type. Deduct \$10 from above prices for 2-speed type.

All prices include 80-1/4" chuck.

Cord, switch, and plug furnished with single phase AC and DC motors.

No switch or control furnished with polyphase motors.

Prices with other types of motors furnished on request.

THE HILL ACME COMPANY, CLEVELAND, OHIO

Canton Division

NO. 1 1/4 HIGH-KNIFE SHEAR

Belt driven, shear only (without motor, belt, or timbers).....	\$1,420
Belt driven, shear only, on timbers (without motor or belt).....	1,465
Belt driven, shear on timbers (with 5 hp., 3-phase, 60-cycle, 220-volt motor and starter).....	1,580
Gear driven, shear only (without motor or timbers).....	1,475
Gear driven, shear only, on timbers (without motor).....	1,520
Gear driven, shear on timbers (with 5 hp., 3-phase, 60-cycle, 220-volt motor).....	1,610
Gear driven, shear on portable truck (with 5 hp., 3-phase, 60-cycle, 220-volt motor).....	1,690

¹ Price includes belt, also motor, complete with pulley and slide rails.

THE HILL ACME COMPANY, CLEVELAND, OHIO—Continued

Canton Division—Continued

NO. 2 LOW-KNIFE SHEAR

Belt driven, shear only (without motor, belt, or timbers).....	\$1,995
Belt driven, shear only, on timbers (without motor or belt).....	2,045
Belt driven, shear on timbers (with 7 1/2 hp., 3-phase, 60-cycle, 220-volt motor, starter, and belt) ¹	2,220
Gear driven, shear only (without motor or timbers).....	2,095
Gear driven, shear only, on timbers (without motor or starter).....	2,145
Gear driven, shear on timbers (with 7 1/2 hp., 3-phase, 60-cycle, 220-volt motor and starter).....	2,290

NO. 2 HIGH-KNIFE SHEAR

Belt driven, shear only (without motor, belt, or timbers).....	\$2,045
Belt driven, shear only, on timbers (without motor or belt).....	2,095
Belt driven, shear on timbers (with 7 1/2 hp., 3-phase, 60-cycle, 220-volt motor, starter, and belt) ¹	2,270
Gear driven, shear only (without motor or timbers).....	2,145
Gear driven, shear only, on timbers (without motor or starter).....	2,195
Gear driven, shear on timbers (with 7 1/2 hp., 3-phase, 60-cycle, 220-volt motor and starter).....	2,340

NO. 3 LOW-KNIFE SHEAR

24" blades, belt driven, shear only (without motor, starter, or belt).....	\$3,410
30" blades, belt driven, shear only (without motor, starter, or belt).....	3,520
24" blades, belt-driven shear (with 15 hp., 3-phase, 60-cycle, 220-volt motor and starter).....	3,715
30" blades, belt-driven shear (with 15 hp., 3-phase, 60-cycle, 220-volt motor and starter).....	3,825
24" blades, gear-driven shear (without motor or starter).....	3,685
30" blades, gear-driven shear (without motor or starter).....	3,795
24" blades, gear-driven shear (with 15 hp., 3-phase, 60-cycle, 220-volt motor and starter).....	3,920
30" blades, gear-driven shear (with 15 hp., 3-phase, 60-cycle, 220-volt motor and starter).....	4,030

NO. 3 HIGH-KNIFE SHEAR

24" blades, belt-driven, shear only (without motor, starter, or belt).....	\$3,520
30" blades, belt-driven, shear only (without motor, starter, or belt).....	3,630
36" blades, belt-driven, shear only (without motor, starter, or belt).....	3,795
24" blades, belt-driven shear (with 15 hp., 3-phase, 60-cycle, 220-volt motor and starter).....	3,825
30" blades, belt-driven shear (with 15 hp., 3-phase, 60-cycle, 220-volt motor and starter).....	3,935
36" blades, belt-driven shear (with 15 hp., 3-phase, 60-cycle, 220-volt motor and starter).....	4,105
24" blades, gear-driven shear (without motor or starter).....	3,795
30" blades, gear-driven shear (without motor or starter).....	3,910
36" blades, gear-driven shear (without motor or starter).....	4,075
24" blades, gear-driven shear (with 15 hp., 3-phase, 60-cycle, 220-volt motor and starter).....	4,030
30" blades, gear-driven shear (with 15 hp., 3-phase, 60-cycle, 220-volt motor and starter).....	4,140
36" blades, gear-driven shear (with 15 hp., 3-phase, 60-cycle, 220-volt motor and starter).....	4,310

NO. 4 LOW-KNIFE SHEAR

24" blades, belt-driven, shear only (without motor, starter, or belt).....	\$3,835
30" blades, belt-driven, shear only (without motor, starter, or belt).....	3,945
24" blades, belt-driven shear (with 15 hp., 3-phase, 60-cycle, 220-volt motor and starter).....	4,265
30" blades, belt-driven shear (with 15 hp., 3-phase, 60-cycle, 220-volt motor and starter).....	4,375
24" blades, gear-driven shear (without motor or starter).....	4,165
30" blades, gear-driven shear (without motor or starter).....	4,275
24" blades, gear-driven shear (with 15 hp., 3-phase, 60-cycle, 220-volt motor and starter).....	4,545
30" blades, gear-driven shear (with 15 hp., 3-phase, 50-cycle, 220-volt motor and starter).....	4,655

¹ Price includes belt, also motor complete with pulley and slide rails.

THE HILL ACME COMPANY, CLEVELAND, OHIO—Continued

Canton Division—Continued

NO. 4 HIGH-KNIFE SHEAR

30" blades, belt-driven shear only (without motor, starter, or belt)	\$4,055
36" blades, belt-driven shear only (without motor, starter, or belt)	4,220
30" blades, belt-driven shear (with 15 hp., 3-phase, 60-cycle, 220-volt motor and starter)	4,490
36" blades, belt-driven shear (with 15 hp., 3-phase, 60-cycle, 220-volt motor and starter)	4,645
30" blades, gear-driven shear only (without motor or starter)	4,390
36" blades, gear-driven shear only (without motor or starter)	4,555
30" blades, gear-driven shear (with 15 hp., 3-phase, 60-cycle, 220-volt motor and starter)	4,780
36" blades, gear-driven shear (with 15 hp., 3-phase, 60-cycle, 220-volt motor and starter)	4,935

NO. 5 LOW-KNIFE SHEAR

26" blades, belt-driven shear only (without motor, starter or belt)	\$4,835
30" blades, belt-driven shear only (without motor, starter, or belt)	5,000
26" blades, belt-driven shear (with 25 hp., 3-phase, 60-cycle, 220-volt motor and starter)	5,445
30" blades, belt-driven shear (with 25 hp., 3-phase, 60-cycle, 220-volt motor and starter)	5,610

NO. 5 LOW-KNIFE SHEAR

26" blades, gear-driven shear only (without motor or starter)	\$5,165
30" blades, gear-driven shear only (without motor or starter)	5,335
26" blades, gear-driven shear (with 25 hp., 3-phase, 60-cycle, 220 volt motor and starter)	5,720
30" blades, gear-driven shear (with 25 hp., 3-phase, 60-cycle, 220-volt motor and starter)	5,890

NO. 5 HIGH-KNIFE SHEAR

30" blades, belt-driven shear only (without motor, starter, or belt)	\$5,010
36" blades, belt-driven shear only (without motor, starter, or belt)	5,305
30" blades, belt-driven shear (with 25 hp., 3-phase, 60-cycle, 220-volt motor and starter)	5,665
36" blades, belt-driven shear (with 25 hp., 3-phase, 60-cycle, 220-volt motor and starter)	5,915
30" blades, gear-driven shear only (without motor or starter)	5,390
36" blades, gear-driven shear only (without motor or starter)	5,640
30" blades, gear-driven shear (with 25 hp., 3-phase, 60-cycle, 220-volt motor and starter)	5,945
36" blades, gear-driven shear (with 25 hp., 3-phase, 60-cycle, 220-volt motor and starter)	6,195

All prices f. o. b. factory.

All prices given above covering motor-driven equipment include standard alternating current motors, 2- or 3-phase, 60-cycle, and 220 or 440 volt. All 5 and 7½ hp. motors are 1,750 r.p.m., 15, and 25 hp. motors are 1,200 r.p.m. We furnish starters only with 7½ hp. motors and larger.

All prices include one extra set of standard knives. Nos. 1½ and 2 shears when mounted on timber foundations are shipped completely assembled.

When belt is required and not included in price, they can be furnished as follows:

	No. 1½	No. 2	No. 3	No. 4	No. 5
Belt.....	\$17.50	\$22.50	\$45	\$85	\$110

1 Price includes belt, also motor complete with pulley and slide rails.

THE HISEY-WOLF MACHINE COMPANY, CINCINNATI, OHIO

BENCH AND FLOOR GRINDERS

Catalog page	Type	Horse-power	Current	Size wheel	Style	Price with—	
						Manual starter	Magnetic starter
	4LAS.....	2	Alternating current	12 x 2	Floor.....	\$229	\$241
	4LDS.....	2	Direct current	12 x 2	do.....	282	310
	3LA.....	1	Alternating current	10 x 1	do.....	180	192
	4LA.....	2	do.....	12 x 1½	do.....	268	280
	6LAS.....	3	do.....	12 x 1½	do.....	311	323
	3LD.....	1	Direct current	10 x 1	do.....	210	238
	4LD.....	2	do.....	12 x 1½	do.....	312	340
5.....	6LA.....	3½	Alternating current	14 x 3	do.....	350	362
	7LAS.....	5	do.....	18 x 3	do.....	383	395
	6LWA.....	3½	do.....	14 x 2½	do.....	375	387
	6LD.....	3½	Direct current	14 x 3	do.....	452	480
	6LWD.....	3½	do.....	14 x 2½	do.....	487	515
6.....	8LA.....	5	Alternating current	18 x 3	do.....	468	488
	7WFA.....	7½	do.....	20 x 4	do.....	515	515
	7WFAH.....	5	do.....	18 x 3	do.....	615	615
	7WFAS.....	5	do.....	20 x 4	do.....	605	605
	8WFA.....	7½	do.....	20 x 4	do.....	675	675
	8WFAH.....	7½	do.....	20 x 4	do.....	685	685
	10WFA.....	10	do.....	24 x 4	do.....	820	820
	7LD.....	5	Direct current	18 x 3	do.....	870	870
	8LD.....	7½	do.....	20 x 4	do.....	680	730
	7WFD.....	5	do.....	18 x 3	do.....	860	860
	8WFD.....	7½	do.....	20 x 4	do.....	945	945
	10WFD.....	10	do.....	24 x 4	do.....	1135	1135

DRILL GRINDERS

8.....	1JA.....	1½	Alternating current	6	Floor.....	\$188	---
	2JA.....	1½	Alternating current	7	do.....	235	---
	1JD.....	1½	Direct current	6	do.....	207	---
	2JD.....	1½	do.....	7	do.....	260	---
9B.....	3JA.....	1	Alternating current	10	do.....	305	\$317
	4JA.....	2	do.....	12	do.....	357	369
	3JD.....	1	Direct current	10	do.....	340	368
	4JD.....	2	do.....	12	do.....	405	433
	3JJA.....	1	Alternating current	10	do.....	365	377
9C.....	3JJD.....	1	Direct current	10	do.....	400	428
	3JWA.....	1	Alternating current	10	Wet.....	490	502
	3JWD.....	1	do.....	10	do.....	430	442
	4JWA.....	2	do.....	12	do.....	477	489
	3JWD.....	1	Direct current	10	do.....	520	548
	4JWD.....	2	do.....	12	do.....	460	488
	4JWD.....	2	do.....	12	do.....	524	552

COMBINATION AND DOUBLE END DISC GRINDERS

Type	Horse-power	Current	Price of plain table	Price of universal table	Price of machine less tables		C L
					Manual starter	Magnetic starter	
3DCA.....	1	Alternating current	\$33	\$110	\$238	\$250	C
6DCA.....	3½	do.....	52	146	---	415	C
7DCA.....	5	do.....	58	168	---	493	C
8DCA.....	7½	do.....	58	168	---	545	C
3DA.....	1	do.....	33	110	238	250	C
6DA.....	3½	do.....	52	146	---	415	C
7DA.....	5	do.....	58	168	---	493	C
8DA.....	7½	do.....	58	168	---	545	C
3DCD.....	1	Direct current	33	110	273	285	C
6DCD.....	3½	do.....	52	146	---	535	C
7DCD.....	5	do.....	58	168	---	687	C
8DCD.....	7½	do.....	58	168	---	757	C
3DD.....	1	do.....	33	110	273	285	C
6DD.....	3½	do.....	52	146	---	535	C
7DD.....	5	do.....	58	168	---	687	C
8DD.....	7½	do.....	58	168	---	757	C

THE HISEY-WOLF MACHINE COMPANY, CINCINNATI, OHIO—Continued
COMBINATION GRINDERS AND BUFFERS

Type	Horse-power	Current	Description	Price with—		C L D
				Manual starter	Magnetic starter	
GMA.....	1 1/2	Alternating current	Floor.....	\$118		B
3COA.....	1	do.	do.	185	\$197	B
4COA.....	2	do.	do.	248	260	B
3CEA.....	1	do.	do.	210	222	B
4CEA.....	2	do.	do.	273	285	C
CMD.....	1 1/2	Direct current	do.	125		B
3COD.....	1	do.	do.	210	238	B
4COD.....	2	do.	do.	307	335	C
3CED.....	1	do.	do.	235	263	B
4CED.....	2	do.	do.	332	360	C

BUFFERS AND POLISHERS

HMA.....	1 1/2	Alternating current	Floor.....	\$117		B
3HOA.....	1	do.	do.	170	\$182	B
4HOA.....	2	do.	do.	238	250	C
6HOAS.....	3	do.	do.	288	300	C
6HOA.....	3 1/2	do.	do.	335	347	C
7HOA.....	5	do.	do.	370	382	C
8HOA.....	7 1/2	do.	do.	410	422	C

1 220 volts must be furnished with magnetic starter.

BUFFERS AND POLISHERS

Type	Horse-power	Current	Description	Price with—		C L D
				Manual starter	Magnetic starter	
HMD.....	1 1/2	Direct current	Floor.....	\$119		B
3HOD.....	1	do.	do.	195	\$223	B
4HOD.....	2	do.	do.	297	325	B
6HOD.....	3 1/2	do.	do.	442	470	C
3HEA.....	1	Alternating current	do.	195	207	B
4HEA.....	2	do.	do.	253	275	B
6HEAS.....	3	do.	do.	311	323	C
6HEA.....	3 1/2	do.	do.	368	380	C
7HEA.....	5	do.	do.	400	412	C
8HEA.....	7 1/2	do.	do.	440	452	C
3HED.....	1	Direct current	do.	220	248	B
4HED.....	2	do.	do.	322	350	C
6HED.....	3 1/2	do.	do.	472	500	C

1 220 volts must be furnished with magnetic starter.

TEX-DRIVE GRINDERS

Type	Horse-power	Price less motor		C L D	Price of motor net—No discount	
		With manual starter	With magnetic starter		Open ball-bearing	Enclosed ball-bearing
3F.....	1	\$210	\$222	C	\$39	\$43
4F.....	2	225	237	C	53	76
5F.....	3	245	257	C	59	82
4FE.....	2	270	282	C	53	76
6MGE.....	3	410	422	C	59	82

THE HISEY-WOLF MACHINE COMPANY, CINCINNATI, OHIO—Continued
TEX-DRIVE DISC AND COMBINATION GRINDERS

		Less tables		C L D		
4D.....	2	\$255	\$267	C	\$53	\$76
5D.....	3	250	262	C	59	82
4DF.....	2	255	267	C	53	76
5DF.....	3	280	292	C	59	82
Plain table (each).....					\$33	
Universal table (each).....					110	

TEX-DRIVE SNAGGING GRINDERS

7E1.....	5		\$590	C	\$71	\$99
8E1.....	7½		670	C	92	131
10E1.....	10		700	C	118	172
10F1.....	10		1,020	C	118	172
15F1.....	15		1,065	C	141	194
8E2.....	7½		730	C	92	131
10E2.....	10		760	C	118	172
10F2.....	10		1,125	C	118	172
15F2.....	15		1,160	C	141	194
10FF1.....	10		1,170	C	118	172
15FF1.....	15		1,220	C	141	194
					<i>Each</i>	<i>Each</i>
88FF1.....	7½		1,170	C	92	131
1010FF1.....	10		1,220	C	118	172
88FF2.....	7½		1,370	C	92	131
1010FF2.....	10		1,420	C	118	172
7TW.....	5		750	C	71	
8TW.....	7½		775	C	92	
10TW.....	10		800	C	118	
15TW.....	15		870	C	141	
8TTW.....	7½		850	C	92	
10TTW.....	10		875	C	118	

1 For high-speed wheels. Motor for vitrified wheels is \$185.
1 For high-speed wheels. Motor for vitrified wheels is \$263.
1 For high-speed wheels. Motor for vitrified wheels is \$141.
1 For high-speed wheels. Motor for vitrified wheels is \$194.

TEX-DRIVE WET AND COMBINATION GRINDERS

3FWS.....	1	\$415	\$427	C	\$39	\$43
4FWS.....	2	425	437	C	53	76
5FWS.....	3	445	457	C	59	82
3FWW.....	1	495	507	C	39	43
4FWW.....	2	505	517	C	53	76
5FWW.....	3	525	537	C	59	82
16FW.....	3	660	672	C	59	82
18FW.....	5	670	682	C	59	82
20FW.....	5	685	697	C	71	99
24FW.....	5	700	712	C	71	99
16FWW.....	3	690	702	C	59	82
18FWW.....	5	700	712	C	59	82
20FWW.....	5	720	732	C	71	99
24FWW.....	5	730	742	C	71	99

TEX-DRIVE BUFFING AND POLISHING MACHINES

Type	Horse-power	Price less motor		C L D	Price of motor net—No discount	
		With manual starter	With magnetic starter		Open	Enclosed
3FB.....	1	\$190	\$202	C	\$39	\$43
4FB.....	2	210	222	C	53	76
5FB.....	3	220	232	C	59	82
3FBE.....	1	220	232	C	39	43
4FBE.....	2	240	252	C	53	76
5FBE.....	3	250	262	C	59	82
6MO.....	3	325	337	C	59	82
7MO.....	5	335	347	C	71	99

THE HISEY-WOLF MACHINE COMPANY, CINCINNATI, OHIO—Continued
TEX-DRIVE BUFFING AND POLISHING MACHINES

Type	Horse-power	Price less motor		C L	Price of motor net—No discount	
		With manual starter	With magnetic starter		Open	Enclosed
8MO.....	7½	\$350	\$362	C	\$92	\$131
6ME.....	3	355	367	C	59	82
7ME.....	5	365	377	C	71	99
8ME.....	7½	1 380	392	C	92	131
6TV.....			(1)			
7TV.....			(2)			
8TV.....						
7MSO.....	5		430	C	71	99
8MSO.....	7½		450	C	92	131
10MSO.....	10		465	C	118	172
15MSO.....	15		480	C	141	194
15FO.....	15		895	C	141	194
20FO.....	20		930	C	168	247
25FO.....	25		945	C	194	272
7MSE.....	5		460	C	71	99
8MSE.....	7½		480	C	92	131
10MSE.....	10		495	C	118	172
15MSE.....	15		510	C	141	194
15FE.....	15		940	C	141	194
20FE.....	20		980	C	168	247
5FE.....	25		995	C	194	272
6MMO.....	3		510	C	Each	Each 82
7MMO.....	5		530	C	71	99
8MMO.....	7½		570	C	92	131
10FFO.....	10		1,055	C	118	172
15FFO.....	15		1,080	C	141	194
6MME.....	3		525	C	59	82
7MME.....	5		545	C	71	99
8MME.....	7½		585	C	92	131
10FFE.....	10		1,085	C	118	172
15FFE.....	15		1,110	C	141	194
7TO.....	5		435	C	71	
8TO.....	7½		455	C	92	
10TO.....	10		475	C	118	
7TE.....	5		470	C	71	
8TE.....	7½		490	C	92	
10TE.....	10		510	C	118	
6TTO.....	3		560	C	Each	Each 59
7TTO.....	5		575	C	71	
6TTE.....	3		585	C	59	
7TTE.....	5		600	C	71	

¹ 220 volts must be supplied with magnetic starter.
² For high-speed wheels. Motor for vitrified wheels is \$194.

VERTICAL SPINDLE GRINDERS

Type	Horse-power	Current	Size wheel in inches (cup wheel)	Price
3VA.....	½	Alternating current	4	\$173
4VA.....	1	do.	6	210
5VA.....	2	do.	6	292
6VA.....	3	do.	6	345
7VA.....				(*)
8VA.....				(*)
10VA.....				(*)
3VD.....	½	Direct current	4	202
4VD.....	1	do.	6	260
5VD.....	2	do.	6	362
6VD.....	3	do.	6	450
7VD.....				

*Discontinued.

[Prices of Bare Machines Without Electrical Equipment]

HOEFER MFG. CO., FREEPORT, ILL.

Drilling machines

PRICES OF HOEFER SELF-CONTAINED HYDRAULIC FEED UNITS

(Including one pair of speed change gears)

½" capacity 1½ HP.....	\$635
¾" capacity 3 HP.....	750
1¼" capacity 5 HP.....	865
2" capacity 7½ HP.....	1,200
2¾" capacity 10 HP.....	1,650
— capacity 15 HP.....	2,125

Prices subject to change without notice.

MULTIPLE SPINDLE HEAD PRICE LIST

[Base price type A full ball bearing]

Number of spindles	2	3	4	5	6	7	8	9	Over 10
No. 1 M. T. Spindle.....	\$128	\$150	\$168	\$188	\$209	\$231	\$252	\$274	\$30
No. 2 M. T. Spindle.....	135	160	182	205	230	255	280	305	33
No. 3 M. T. Spindle.....	151	184	214	245	278	311	344	377	41
No. 4 M. T. Spindle.....	195	250	302	355	410	465	520	575	63

Above prices cover heads fitted with M. T. drive or flange quill adaption.
Above prices are based on 8" maximum center distance. Complete to nearest even inch. Example:
3¼"=13 in. 13¾"=14 in. Add \$10 per inch to above prices for every inch over 8 in. center distance.

HUNTER SAW & MACHINE CO., PITTSBURGH, PA.

HIGH SPEED METAL CUT-OFF SAWS

[Prices of bare machines without electrical equipment]

No. 1A.....	\$600	No. 2B.....	\$1,450
No. 6.....	385	No. 2A.....	2,050

ILLINOIS MACHINE & MFG. CO., LA SALLE, ILL.

GRINDERS—PRICES AND SPECIFICATIONS

Model No.	Maximum distance between wheels to table	Distance between wheels	Two wheels	Table	Spindle pulley	Belt drive		Motor drive including motor ¹	
						Weight crated	Price	Weight crated	Price
10.....	Inches 11	Inches 18	8 x 1 x ¾	Inches 10 x 20	Inches 3½ x 2¼	Pounds 530	\$192.50	Pounds 650	\$315
11.....	11	18	8 x 1 x ¾	Table travel, inches 24 x 6	3½ x 2¼	660	360.00	850	488

¹ Motor is 1 hp. ball-bearing type—1,720 r. p. m.

THE INGERSOLL MILLING MACHINE COMPANY

Prices on the following mills have been established by the Office of Price Administration.

TYPE A-20 ADJUSTABLE RAIL INGERSOLL MILLING MACHINE

This machine has four heads. Each head has two speeds. Spindles are driven by a 20-horsepower motor. Control is through levers and hand-operated rheostats. Table is carried on tubular ways and driven by a Johnson drive.

30" x 30" x 10-ft., 4-head	\$18,590
2-ft. of additional length up to 28-ft.	580
36" x 30" x 10-ft., 4-head	18,850
2-ft. of additional length up to 28-ft.	600
42" x 30" x 10-ft., 4-head	19,175
2-ft. of additional length up to 28-ft.	620
48" x 30" x 10-ft., 4-head	19,500
2-ft. of additional length up to 28-ft.	640
54" x 30" x 10-ft., 4-head	19,825
2-ft. of additional length up to 28-ft.	660
Additional 6" of height.	700

The following features may be deducted at the following prices:

Left-hand horizontal head, each	\$2,225
Vertical head or right-hand horizontal head, each	1,780

TYPE A-30 ADJUSTABLE RAIL INGERSOLL MILLING MACHINE

This machine has four heads. Each head has two speeds. Spindles are driven by 30-horsepower motor. Control is through push button pendant. Fluorescent lights are contained in the rail. Table is carried on tubular ways and driven by a Johnson drive.

42" x 36" x 10-ft., 4-head	\$24,345
2-ft. of additional length up to 28-ft.	625
48" x 36" x 10-ft., 4-head	24,600
2-ft. of additional length up to 28-ft.	675
54" x 36" x 10-ft., 4-head	24,930
2-ft. of additional length up to 28-ft.	700
60" x 36" x 10-ft., 4-head	25,250
2-ft. of additional length up to 28-ft.	725
Additional 6" of height.	750

The following features may be deducted at the following prices:

Left-hand horizontal head	\$2,375
Each vertical head or right-hand horizontal head	1,935

INGERSOLL FIXED RAIL MILLING MACHINE

With offset milling and boring head

Head is mounted on a slide that travels horizontally on a fixed rail at right angles to the table, and is driven by a 15-horsepower motor. Table is mounted on the bed with flat ways and driven by a Johnson drive.

42" wide by 6-ft. long	\$19,200
60" wide by 6-ft. long	20,000
60" machine may be equipped with additional head	1,820

INTERNATIONAL MACHINE TOOL CORPORATION, FOSTER DIV.,
ELKHARDT, IND.

NOTE.—Price corrections made upon advice of manufacturer. Prices differ from those shown in first edition of Prices of New Machine Tools.

Size and type of machine	Bar capacity	Swing	Approx. weight (pounds)	Prices					
				Bare machine	Automatic chuck and bar feed when purchased with machine	Automatic chuck and bar feed when purchased separately	Bar feed purchased separately	Power feed to turret	Power cross feed to cross slide
Screw machine:									
No. 1 motor in base.	1½"	11½"	2,400	\$2,040	\$380	\$450	\$200	None	None
No. 3 all geared head.	1¾"	14½"	2,225	2,200	330	220	110	\$300	\$200
No. 5 all geared head.	1¾"	17½"	3,350	2,400	320	200	120	300	200
No. 7 all geared head.	2½"	20½"	5,600	3,400	425	275	150	Included with bare machine.	Not available.
No. 5 Univ. all geared head.	1¾"	17½"	5,600	3,550	375	250	125	Included with bare machine.	
No. 7 Univ. all geared head.	2½"	20½"	5,800	3,900	450	300	150	Do.	
No. 1B Universal.	2½"	20½"	6,000	5,300	365	265	100	Do.	
No. 2B Universal.	3½"	22"	6,500	6,200	725	475	250	Do.	
No. 3B Universal.	4½"	28"	11,500	8,000	1,100	800	300	Do.	

UNIVERSAL FASTERMATICS, TURRET TYPE

Model No.	Swing over bed	Diameter hole through spindle	Length of cross slide	Price, standard machine, motor drive mounting without motor
	Inches	Inches	Inches	
1-F	19	2½	16½	\$6,875
2-F	23½	3	19	8,200
3-F	28½	4	22½	11,800
4-F	35½	4	22½	14,850

UNIVERSAL FASTERMATICS PLATEN TYPE

Model No.	Swing over bed	Diameter hole through spindle	Length of cross slide	Price, standard machine with main slide, front and rear cross slides, motor drive, without motor	Deduct for main slide	Deduct for each cross slide
	Inches	Inches	Inches			
1-F	19	2½	16½	\$6,875	\$577.50	\$680
2-F	23½	3	19	8,200	605.00	755
3-F, 12-speed head	28½	4	22½	9,080	695.00	905
3-F, 16-speed head	28½	4	22½	11,800	695.00	905
4-F, 16-speed head	35½	4	22½	14,850	1,010.00	1,220

INTERNATIONAL MACHINE TOOL CORPORATION, INDIANAPOLIS, IND.

NOTE.—Price corrections made upon advice of manufacturer. Prices differ from those shown in first edition of "Prices of New Machine Tools as of March 1, 1941."

"LIBBY" TURRET LATHES

Type	Swing	Spindle bore	Price	Type	Swing	Spindle bore	Price
	Inches	Inches			Inches	Inches	
H-5".....	18	5/4	\$10,059	3H-8".....	29	8 3/4	\$13,575
1H-8".....	24	5/4	10,675	4H-12".....	32	12 1/2	18,470
2H-8".....	27	8 3/4	12,560	5H-12".....	36	12 1/2	20,988

Prices shown are stripped prices on the machine only. Does not include any chucks, electrical or tooling equipment. For extra length of bed add approximately \$600 per foot.

OBSOLETE MACHINES

[Use equivalents as shown]

Model	Capacity	Equivalent to—		
		Model	Company	Base price
A.....	18" x 31 1/2"	2L	Gisholt.....	\$6,975
A.....	18" x 5"	3L	Gisholt.....	8,675
C.....	26" x 41 1/2"	3L	Gisholt.....	8,675
C.....	26" x 7 1/2"	3AL	Gisholt.....	9,375
C.....	26" x 8"	3AL	Gisholt.....	9,375
C.....	26" x 10 1/2"	4L	Gisholt.....	10,900
D.....	32" x 10 1/2"	4L	Gisholt.....	12,500

JACKSON MACHINE & TOOL COMPANY, JACKSON, MICH.

Jackson No. 1 Horizontal Milling Machine, including totally enclosed ball bearing motor (850 r. p. m. 220/440, 60 cycle, 3 phase), thermally protected starting switch, and longitudinal power feed to table.....	\$925.00
Jackson No. 2 Vertical Milling Machine, including totally enclosed ball bearing motor (850 r. p. m. 220/440, 60 cycle, 3 phase) and thermally protected starting switch.....	950.00
Longitudinal power feed for No. 2 mill (complete with motor and reversing switch), installed.....	210.00
Automatic coolant system (for either No. 1 or No. 2 mill), installed.....	170.00
1" Arbor and wrench (for No. 1 mill).....	20.00
4 1/2" swivel base vise.....	23.60
6 1/2" swivel base vise.....	32.55
6" Universal Angleworm Vise.....	160.00
L-W 11" dividing head and tail stock (for No. 2 Mill).....	128.55
Craley Eccentric Boring Head (for No. 2 Mill).....	65.00
12" rotary table.....	160.00
DA-15 dividing attachment for 12" rotary table.....	35.00
9" rotary table.....	97.00

JARECKI MANUFACTURING COMPANY, ERIE, PA.

JARECKI PIPE THREADING MACHINES

[Consumers' net prices, f. o. b. Erie, Pa.]

Style No.	Range	Sets of dies required	Cost per set	Belt with standard dies	With A. C. motor 110, 220, or 440 volt			D. c. motor, 110 or 220 volt, and starter	Arranged for, but less motor and starter
					60 cycle, 2 or 3 phase, and starter	25 cycle, 2 or 3 phase, and starter	60 cycle, single phase, and non-revolving starter		
7.....	(Std. 1/4-2)	4	\$5.70	\$439					
22.....	(Spec. 3/4-1 1/4)	1	7.15	627	\$721	\$761	\$820	\$836	\$650
7-B.....	(Std. 3/4-3)	5	6.95	644					
33.....	(Spec. 1/4-2)	11	6.95	762	856	897	955	970	785
44.....	(Std. 1-4)	4	8.50	1,033	1,151	1,189	1,268	1,332	1,059
	(Spec. 1/4-3/4)	1	10.65						
66.....	(Bolt Spec.)	5	11.60	1,201	1,318	1,356	1,437	1,499	1,228
	(Spec. 1-1 1/4)	1	14.50						
88.....	(Bolt Spec.)	5	15.30	1,834	1,979	2,026	2,122	2,206	1,865
	(Std. 2 1/4-8)	1	19.15						
100.....	(Spec. 1 1/4-2)	6	18.80	2,308	2,450	2,497	2,594	2,677	2,336
	(Std. 2 1/4-10)	1	23.50						
120.....	(Spec. 1 1/4-2)	7	23.50	2,619	2,769	2,816	2,912	2,995	2,655
	(Std. 2 1/4-12)	1	29.75						
4 HD.....	(Spec. 1/4-2)	2	10.40	2,322	2,477	2,518	2,598	2,664	2,371
	(Spec. 1/4-3/4)	1	12.70						
6 HD.....	(Bolt Spec.)	2	14.55	2,639	2,822	2,870	2,968	3,054	2,684
	(Spec. 1-1 1/4)	1	16.85						
8 HD.....	(Std. 2 1/4-8)	1	19.40	3,172	3,354	3,402	3,500	3,586	3,216
	(Spec. 1 1/4-2)	1	19.40						
12 HD.....	(Std. 4-12)	1	37.45	5,379	5,623	5,710		5,911	5,437
	(Spec. 2 1/4-3 1/2)	1	37.45						

* 2 furnished.

Nipple holders, solid die holders, nut gripping chuck, special chucks and die heads, and pipe machine repairs—list less 40%.

JEFFERSON MACHINE TOOL CO., CINCINNATI, OHIO

No. 100F floor type hand miller complete with 1/2 horsepower motor reversing control, draw-in attachment and 1/2-inch collet and hand lever feed.....	\$410
No. 200F floor type screw and power feed miller complete with 1/2 horsepower motor, reversing control, draw-in attachment and 1/2-inch collet.....	460
Arbors 1/2, 3/4, 7/8, each.....	9
6-inch swing dividing head and tailstock with 3 plates.....	120
Vertical attachment with one collet.....	100
Each extra collet.....	6
Plain vise hardened jaws attached handle bolts and clamps.....	25
Swivel vise hardened jaws graduated for 360°.....	36

SPECIFICATIONS

Table:	Inches
Longitudinal travel.....	8
Traverse travel.....	3
Vertical travel.....	5 1/4
Working surface.....	14 1/2 x 4 3/4

Three spindle speeds.

Shipping weight: Floor type, 500 pounds.

JONES & LAMSON MACHINE CO., SPRINGFIELD, VT.

UNIVERSAL RAM TYPE TURRET LATHES—PRICES AND SPECIFICATIONS

Model No.	Bar capacity	Swing	Price	Model No.	Bar capacity	Swing	Price
	Inches	Inches			Inches	Inches	
3.....	1½	10	\$4,310	5.....	2½	14	\$4,950
4.....	1¾	10	4,425	5-5.....	5¼		5,995

SADDLE TYPE TURRET LATHES

Model No.	Bar capacity	Swing	Prices				
			Universal fixed head with fixed center 6 position hollow hexagon turret	Universal fixed head with 6 position cross sliding hollow hexagon turret	Cross sliding head with 6 position fixed center flat turret	Fixed head with 6 position fixed center flat turret	Fixed head with fixed center, 6 position hollow hexagon turret 5¼" hole in spindle
7.....	Inches 2½	Inches 40	\$6,380	\$7,183	\$5,957	\$5,187	\$7,425
8.....	3	36	6,501	7,304	6,078	5,308	7,646

FAY AUTOMATIC LATHE

Size	Purpose	Price	Size	Purpose	Price
8" x 15"	Center work	\$2,855	16" x 33"	Center work	\$8,750
	Chuck work	2,770		Chuck work	8,230
8" x 21"	Center work	3,256	16" x 51"	Center work	9,335
	Chuck work	3,171	16" x 69"	do	10,065
8" x 33"	Center work	3,460	16" x 87"	do	10,800
	do	3,658	20" x 25"	do	6,254
8" x 45"	do	4,169		Chuck work	5,806
8" x 63"	do	4,351		Center work	6,551
12" x 15"	Chuck work	4,180	20" x 37"	Chuck work	6,103
	do	4,642	20" x 55"	Center work	7,134
12" x 21"	Chuck work	4,471	20" x 73"	do	7,865
	do	4,928	20" x 91"	do	8,597
12" x 33"	Chuck work	5,225	20" x 127"	do	10,496
	do	5,808	24" x 42"	do	10,379
12" x 45"	do	6,545		Chuck work	9,815
12" x 63"	do	7,271	24" x 60"	Center work	11,110
12" x 81"	do	8,455	24" x 96"	do	12,579
12" x 99"	do	7,930			
16" x 21"	Chuck work				

THREAD-GRINDING MACHINES

EXTERNAL

Size	Maximum swing	Maximum		Net weight	Base price
		Distance between centers	Thread length		
	Inches	Inches	Inches	Pounds	
6" x 15"	6½	15	3	5,450	\$6,750
6" x 36"	7½	36	12	8,200	10,175
12" x 45"	21	45	18	10,300	11,880

INTERNAL

Size	Maximum swing	Maximum thread length	Minimum diameter	Maximum diameter	Net weight	Base price
	Inches	Inches	Inches	Inches	Pounds	
6" x 3"	7	3	1	5	5,400	\$7,250
6" x 24"	7½	5	1	5	8,300	11,675
12" x 30"	21	5	1	14	10,400	13,880

JONES MACHINE TOOL WORKS, INC., PHILADELPHIA, PA.

SLOTTERS—HEAVY DUTY

15" stroke.....	\$6,500	6" stroke.....	\$4,500
20" stroke.....	8,500	8½" stroke.....	5,800
25" stroke.....	11,350	12" stroke.....	6,800
30" stroke.....	12,000	DUPLUX CONTROL SLOTTER	
36" stroke.....	16,000	12" stroke.....	\$5,250

VERTICAL SHAPERS

KEARNEY & TRECKER CORPORATION, MILWAUKEE, WIS.

KNEE AND COLUMN TYPE MACHINES

Machine	Net weight	Price	Machine	Net weight	Price
	Pounds			Pounds	
1H-12 manufacturing.....	2,600	\$3,560	3H plain.....	6,150	\$5,780
1H-18 manufacturing.....	2,700	3,805	3H univ. conv. lead.....	6,450	6,715
1H-12 manufacturing vertical.....	2,700	4,820	3H plain vertical.....	6,850	7,250
1H-18 manufacturing vertical.....	2,700	4,980	3KM plain.....	7,800	8,280
1H-Plain.....	2,600	3,540	3KM univ. conv. lead.....	8,250	7,345
1H-Univ. Conv. lead.....	2,800	4,215	3KM plain vertical.....	8,900	7,775
1H-plain vertical.....	2,800	4,215	3K plain.....	7,800	6,725
2H plain.....	2,700	3,660	3K univ. conv. lead.....	8,250	7,785
2HL univ. conv. lead.....	3,000	4,335	3K plain vertical.....	8,900	8,210
2HL plain vertical.....	3,000	4,320	4H plain.....	7,850	7,075
2H plain.....	3,750	4,050	4H univ. conv. lead.....	8,250	8,400
2H univ. conv. lead.....	3,950	4,785	4H plain vertical.....	8,850	8,410
2H plain vertical.....	4,350	4,915	4K plain.....	12,500	8,170
2KM plain.....	6,100	5,185	4K univ. conv. lead.....	13,300	9,750
2KM univ. conv. lead.....	6,400	6,005	4K plain vertical.....	13,850	9,665
2KM plain vertical.....	6,800	6,260	5H plain.....	12,500	8,070
2K plain.....	6,100	5,555	5H univ. conv. lead.....	13,200	10,250
2K univ. conv. lead.....	6,400	6,440	5H plain vertical.....	14,150	10,165
2K plain vertical.....	6,800	6,670			

NOTE.—Prices corrected on all 1H and 2HL machines upon advice of manufacturer. Prices differ from those shown in first edition of Prices of New Machine Tools.

"MILWAUKEE" KNEE TYPE MILLING MACHINES

HORIZONTAL

Discontinued Models

Current Equivalent Machines

1B plain—1 plain (or universal).....	1H plain (or universal).
1½B plain—2BS plain—2 spec. plain (or universal).....	2H plain (or universal).
2 standard plain (or universal).....	
2B plain—2 hy. plain (or universal).....	2KM plain (or universal).
3 standard plain (or universal).....	3H plain (or universal).
3B plain—3 hy. plain (or universal).....	3KM plain (or universal).
4 standard plain (or universal).....	4H plain (or universal).
4B plain—4 hy. plain (or universal).....	4K plain (or universal).
4B plain and 4 hy. plain with 52" table Fd. (or universal).....	5H plain (or universal).

MANUFACTURING

1A—1 mfg. --- 1H18 mfg.	2A mfg. --- 2H plain.
1½A mfg. ---	1404 simplex. 1404 simplex, 1940 price.
2AS mfg. --- 2H plain.	1404 duplex. 1404 duplex, 1940 price.

PLAIN VERTICAL

1B vertical—1 plain vertical.....	1H vertical.
1½B vertical—2BS vertical—2 spec. vertical.....	2H vertical.
2 standard vertical.....	
2B vertical—2 hy. vertical.....	2KM vertical.
3 standard vertical.....	3H vertical.
3B vertical—3 hy. vertical.....	3KM vertical.
4 standard vertical.....	4H vertical.
4B vertical—4 hy. vertical.....	4K vertical.
4B and 4 hy. vertical, 52" table Fd.....	5H vertical.

KEARNEY & TRECKER CORPORATION, MILWAUKEE, WIS.—Continued

"Milwaukee" Knee Type Milling Machines—Continued

MANUFACTURING VERTICAL

1A vertical—1 vertical.....	1H18 mfg. vertical.
2AS vertical—2 spec. vertical.....	2H vertical.
2A mfg. vertical—2 mfg. vertical.	2KM vertical.

THE KEMPSMITH MACHINE CO., MILWAUKEE, WIS.

MAXIMILLER—ALL GEARED MILLING MACHINES

[All Maximillers are motor-in-base of single pulley drive]

Size of milling machine	Approximate shipping weight	Price
	<i>Pounds</i>	
No. 2, plain Maximiller.....	6,100	\$4,785
No. 3, plain Maximiller.....	6,620	5,420
No. 4, plain Maximiller.....	9,400	6,710
No. 5, plain Maximiller.....	10,600	7,355
No. 2, universal Maximiller.....	6,410	5,610
No. 3, universal Maximiller.....	6,870	6,370
No. 4, universal Maximiller.....	10,050	7,975
No. 5, universal Maximiller.....	11,300	8,820
No. 2 vertical Maximiller.....	7,250	4,980
No. 3 vertical Maximiller.....	7,550	5,655
No. 4 vertical Maximiller.....	11,300	7,245
No. 2, vertical Maximiller with adjustable spindle.....	7,350	6,380
No. 3 vertical Maximiller with adjustable spindle.....	7,750	7,800
No. 4, vertical Maximiller with adjustable spindle.....	11,600	8,800

MILLING MACHINES—PRICES AND SPECIFICATIONS

Model Number	Description	Power feed range			Table working surface	Net weight	Price
		Length-wise	Trans.	Vertical			
		<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Pounds</i>	
1.....	Plain, motor in base, 3 hp., a. c.....	22	8	18	42 x 10	3,500	\$3,675
2.....	Plain, motor in base, 3 hp., a. c.....	28	10	18	45 x 10	3,700	3,750
1.....	Universal, motor in base, 3 hp., a. c.....	22	8	19	42 x 10	3,800	4,350
2.....	Universal, motor in base, 3 hp., a. c.....	28	10	19	45 x 10	4,000	4,450
1.....	Plain, cone drive.....	22	8	19	42 x 10	3,100	1,950
2.....	Plain, cone drive.....	28	9	19	45 x 10	3,475	2,250
3.....	Plain, cone drive.....	34	11	20	54 x 12	4,740	2,725
1.....	Universal, cone drive.....	22	7½	18	39½ x 8½	3,200	2,625
2.....	Universal, cone drive.....	28	8½	18	45 x 10	3,700	2,950
3.....	Universal, cone drive.....	34	10	19	52 x 12	5,150	3,475

THE KENT MACHINE COMPANY, CUYAHOGA FALLS, OHIO

¾" AUTOMATIC CAP SCREW AND BOLT THREADER

Kent automatic cap screw and bolt threader ¾" size, belt drive, with countershaft and all equipment necessary to thread one size of work, without die head or chasers..... \$2,090.00

Additional for motor drive, not including motor or starter..... 165.00

A 2 hp. 1,200 r. p. m. motor is required to operate.

Any standard die head with chasers desired will be furnished mounted on machine at manufacturer's list price.

THE KENT MACHINE COMPANY, CUYAHOGA FALLS, OHIO—Continued

1" AUTOMATIC CAP SCREW AND BOLT THREADER

Kent automatic cap screw and bolt threader, 1" size, belt drive, including countershaft and all equipment necessary to thread one size of work, without die head and chasers..... \$2,695.00

Additional for motor drive, not including motor or starter..... 220.00

A 3 hp. 1,200 r. p. m. motor is required to operate.

STUD THREADERS

Kent ½" standard stud threaders, for studs up to ½" diameter and 4½" long, belt drive, including countershaft and all equipment for one diameter stud, except die heads and chasers..... 1,705.00

Kent ½" special stud threader for studs up to ½" diameter and 7½" long, belt drive, including countershaft and all equipment for one diameter stud, except die heads and chasers..... 1,980.00

Additional for arranging for motor drive, not including motor or starter..... 275.00

A 2 hp. motor is required to operate.

Any standard die head and chasers will be furnished mounted on machine at die head manufacturer's list price.

Kent 1" standard stud threader, for studs ¾" to 1" diameter, and 1¼" to 6" long, belt drive, including countershaft and all equipment for one diameter stud, except die head and chasers..... 2,145.00

Kent 1" special stud threader for studs ¾" to 1" diameter, and 1¼" to 9" long, belt drive, including countershaft and all equipment for one diameter stud, except die head and chasers..... 2,447.50

Additional for motor drive for either standard or special 1" stud threaders..... 275.00

A 3 hp. motor is required to operate.

Any standard die head and chasers will be furnished mounted on machine at manufacturer's list price.

NO. 2 BOLT THREADER

No. 2 Kent two spindle threading machine, belt drive, including countershaft, but without die heads or work holding fixtures..... 660.00

Arranging for motor drive, without motor or starter..... 93.00

A 1 hp. 1,800 r. p. m. motor is required to operate.

Any standard die head with chasers desired will be furnished mounted on machine at the manufacturer's list price.

NO. 2A BOLT THREADER

No. 2A Kent two spindle threading machine, belt drive, including countershaft and one set of standard vise jaws, but without die heads or chasers..... 745.00

Arranging for motor drive, without motor or starter..... 93.00

A 1 hp. 1,800 r. p. m. motor is required to operate.

SCREW SLOTTERS

No. 117 Kent screw slotter, belt drive, including countershaft, pump and piping for cutting lubricant, but without work holding disks.. 715.00

Arranging for motor drive, not including motor or starter..... 120.00

A 1 hp. 1,200 r. p. m. motor is required to operate.

No. 3 Kent screw slotter, belt drive, including countershaft, pump and piping for cutting lubricant and one set (10) standard work holding bushings..... 770.00

KENT DUPLEX DRILLING MACHINE

Kent duplex drilling machine arranged for hand feed, with one set of grip jaws for round work, equipped with motor drive, but without motor or control..... 2,255.00

One (1) 1½ hp., 1,200 r. p. m., 3 phase, 60 cycle, 220/440 volt, motor with double extended shaft, installed in driller..... 68.00

Transfer mechanism for feeding blanks from front of machine to the grip jaws..... 195.00

Hopper for standard screws with motor drive and gear reduction including chute to transfer mechanism..... 560.00

KENT-OWENS MACHINE COMPANY, TOLEDO, OHIO

	Weights	Prices
	Pounds	
No. 1-M hand milling machine.....	950	\$790
No. 1-M DS (double spindle) milling machine.....	1,100	1,080
No. 1-S DS (double spindle) milling machine.....	1,450	2,590
No. 1-14 hydraulic milling machine.....	1,500	2,020
No. 1-8 hydraulic milling machine.....	1,300	1,720
No. 1-14 DS (double spindle) milling machine.....	1,650	2,920
No. 1-V hydraulic milling machine.....	1,440	2,100
No. 2-20 hydraulic milling machine.....	3,500	3,620
No. 2-RV hand milling machine.....	2,575	1,250

DISCONTINUED MODELS

Kent-Owens No. 2 hand milling machine (plain drive), base price effective after March 1, 1940 (discontinued sometime before March 1, 1941).....	\$895
Kent-Owens No. 3 miller (power-feed to table), base price effective after March 1, 1940 (discontinued sometime before March 1, 1941).....	1,240
Kent-Owens No. 3RV power-feed with varispeed to spindle, base price effective after April 1, 1940 (discontinued sometime before March 1, 1941).....	1,390
Kent-Owens No. 1 hand milling machine plain miller base price effective after March 1, 1940 (this machine discontinued December 31, 1940).....	505
Kent-Owens IRV hand milling machine (plain miller with varispeed drive to spindle) base price effective after March 1, 1940 (this machine discontinued December 31, 1940).....	645

KING MACHINE TOOL CO., CINCINNATI, OHIO

VERTICAL BORING AND TURNING MILLS (NEW TYPE HVY. DUTY)

Size	Base weight	Prices ¹		Extra side head	
		Arranged for 900 r. p. m. motor drive	500/1000 r. p. m. motor drive	Weight	Price
	Pounds			Pounds	
30" ¹	20,000	\$10,500	\$10,100		
36" ¹	24,000	11,500	11,100		
42" ¹	29,000	13,070	12,470		
48" ¹	25,000	10,700	10,100	7,000	\$3,250
52" ¹	34,000	12,600	12,000	7,000	3,550
62" ¹	48,000	14,900	14,150	8,000	3,900
72" ¹	54,000	17,200	16,450	8,000	3,900
84" ¹	75,000	22,000	21,150	10,000	4,400
100" ¹	95,000	28,600	27,750	10,000	4,400
120" ¹	140,000		38,800	10,000	4,925

¹ Prices are: 1. Arranged for 900 r. p. m. direct coupled, constant speed motor drive, less electrical equipment. 2. Arranged for 500/1,000 r. p. m. adjustable speed motor drive.

² These machines have as standard equipment: Swivel turret only on rail, right hand side head with 4-position tool holder, plain table.

³ These machines have as standard equipment right and left hand swivel heads on rail, plain table.

Size 42" has 2 swivel heads on rail, and plain table.

KINGSBURY MACHINE TOOL CORPORATION, KEENE, N. H.

KINGSBURY SEMISTANDARD VERTICAL MODEL DRILLING MACHINES

	Weight	Price
	Pounds	
Model VAP, 1-spindle floor type.....	475	\$478
Model VDMF, 2-spindle floor type.....	975	1,957
Model MDMP, 3-spindle floor type.....	1,900	1,479
Model MDMP, 4-spindle floor type.....	2,130	1,826

¹ Denotes price correction advised by manufacturer. Price differs from that shown in first edition of Prices of New Machine Tools.

KLING BROTHERS ENGINEERING WORKS, 1300 NORTH KOSTNER AVENUE, CHICAGO, ILL.

Combination Shear, Punch, and Coper

[When sold for delivery in Illinois 2 percent is added on account of State occupational tax]

	No. 3	No. 4	No. 5
Capacity to punch.....	1 1/4" through 1/2"	3 1/4" through 3/4"	15 1/2" through 1"
Depth of throat.....	10"	15"	24"
Shearing capacities:			
Angles 90° with standard blades.....	4" x 4" x 1/4"	4" x 4" x 3/8"	6" x 6" x 1/2"
Round bars.....	1 3/4"	1 3/4"	2 1/4"
Square bars.....	1 1/4"	1 1/4"	2"
Flat bars.....	1 1/2" x 4"	5/8" x 6"	1" x 7"
Plate.....	5/8"	1/2"	3/4"
Motor required—1,800 r. p. m.....	2 horsepower	5 horsepower	10 horsepower
Net weight—Pounds, approximate.....	3,000	5,100	13,000

REGULAR EQUIPMENT

	#4 H and J.....	#5 H and J.....	#7 H and J.....
Standard punch holder with stripper.....			
coupling nut and punch.....			
Small architectural jaw with die.....	1" x 3/4"	1" x 3/4"	Not inclusive.
Large architectural jaw with die.....	1 1/2" x 1"	1 1/2" x 1"	2 3/8" x 1 1/4"

PRICES

Price, B. D. with countershaft:	
No. 3.....	\$1,545
No. 4.....	2,300
No. 7.....	3,925
Price, Arr. M. D. No. El. (equipment):	
No. 3.....	1,575
No. 4.....	2,330
No. 7.....	3,965

Kling single end vertical geared punches

	No. 2	No. 4	No. 7
Capacity, M. S.:			
Punch.....	1 1/2" x 1 1/2" x 1 1/2"	3 1/4" through 3 1/4"	1 1/4" through 1"
Shear angles.....	1 1/2" x 1 1/2" x 1 1/2"	3" x 3" x 3/8"	5" x 5" x 3/8"
Shear flats.....	3" x 1 1/2"	5" x 1 1/2"	6" x 1"
Shear rounds.....	3 1/4"	1 1/4"	2"
Shear plate.....	1 1/2"	1 1/2"	3/8"
Height, gap.....	10"	17"	17"
Flywheel.....	30" x 3"	42" x 4 1/2"	54" x 5"
Size, gear.....	36" x 3 1/2"	36" x 5 1/2"	44" x 6"
Diameter pinion.....	4 3/8"	5 1/2"	6 3/8"
	No. 10	No. 12	No. 14
Capacity, M. S.:			
Punch.....	2" through 1"	2" through 1 1/4"	2 1/4" x 1 1/4"
Shear angles.....	6" x 6" x 1/2"	6" x 6" x 3/8"	8" x 8" x 3/8"
Shear flats.....	8" x 1 1/4"	8" x 1 1/4"	10" x 1 1/4"
Shear rounds.....	2 1/4"	2 3/4"	3"
Shear plate.....	1 1/2"	1 1/4"	1 1/2"
Height, gap.....	20"	20"	22"
Flywheel.....	54" x 7"	54" x 5 3/4"	54" x 6 1/4"
Size, gear.....	63" x 7"	63" x 7"	72" x 8"
Diameter pinion.....	7 3/8"	7 3/8"	8"
Motor.....	10 horsepower	10 horsepower	15 horsepower
Motor r. p. m.....	1,200	1,200	1,200
	No. 2	No. 4	No. 7
Motor.....	3 horsepower	5 horsepower	7 1/4 horsepower
Motor r. p. m.....	1,200	1,200	1,200

KLING BROTHERS ENGINEERING WORKS, 1300 NORTH KOSTNER
AVENUE, CHICAGO, ILL.—Continued

Kling single end vertical geared punches—Continued

No. 2 ($\frac{3}{4}$ " THROUGH $\frac{1}{2}$ ")

Depth throat	Weight	Price	Depth throat	Weight	Price
	Pounds			Pounds	
12".....	3,000	\$840	36".....		
15".....			48".....		
18".....	3,800	940	60".....		
24".....	4,600	1,045	72".....		
30".....	5,200	1,150			

No. 4 ($\frac{3}{4}$ " THROUGH $\frac{3}{4}$ ")

12".....			36".....	9,200	\$1,640
15".....	6,600	\$1,235	48".....	11,000	1,965
18".....			60".....		
24".....	7,500	1,350	72".....		
30".....					

No. 7 ($1\frac{1}{4}$ " THROUGH 1")

12".....	10,600	\$1,875	36".....	15,000	\$2,565
15".....			48".....	19,000	3,135
18".....	11,500	2,018	60".....	24,000	3,675
24".....	12,200	2,150	72".....	32,000	4,440
30".....					

No. 10 (2" THROUGH 1")

12".....			36".....	22,500	\$3,555
15".....	16,000	\$2,755	48".....	26,500	4,005
18".....			60".....	35,000	4,845
24".....	20,000	3,145	72".....		
30".....					

No. 12 (2" THROUGH $1\frac{1}{4}$ ")

12".....			36".....		
15".....			48".....	35,000	\$4,820
18".....	20,600	\$3,250	60".....		
24".....			72".....		
30".....					

No. 14 ($2\frac{1}{2}$ " THROUGH $1\frac{1}{4}$ ")

12".....			30".....		
15".....			36".....		
18".....			48", 60", 72".....	45,000	\$6,190
24".....	20,000	\$4,380			

*Have no weight or price listed.

MOTOR DRIVE ARRANGEMENT

No. 2.....	\$83	No. 10.....	\$153
No. 4.....	95	No. 12.....	171
No. 7.....	127	No. 14.....	176

Prices on complete machines cover regular belt drive arrangement, with either plain or architectural jaw punching attachment only.

Extra charge for motor drive arrangement covers motor bracket, pinion and gear, but does not include the 1,200 r. p. m. motor.

Double end punches.—To obtain price, add the prices of two single end machines, and deduct 5 percent. Figure weights in the same manner.

KLING BROTHERS ENGINEERING WORKS, 1300 NORTH KOSTNER
AVENUE, CHICAGO, ILL.—Continued

Kling single end vertical geared punches—Continued

SINGLE END VERTICAL FLYWHEEL PUNCHES—QUICK ACTING TYPE

	No. 1	No. 2
Capacity:	$\frac{3}{4}$ " through $\frac{3}{4}$ "	$\frac{1}{2}$ " through $\frac{1}{2}$ "
Punch holes.....	$1\frac{1}{2}$ " x $1\frac{1}{2}$ " x $\frac{1}{8}$ "	$1\frac{1}{2}$ " x $1\frac{1}{2}$ " x $\frac{1}{8}$ "
Shear angles.....	$3\frac{1}{2}$ " x $\frac{1}{4}$ "	$3\frac{1}{2}$ " x $\frac{1}{4}$ "
Shear flat bars.....	$3\frac{1}{2}$ "	$3\frac{1}{2}$ "
Shear round bars.....	$3\frac{1}{2}$ "	$3\frac{1}{2}$ "
Shear plate.....	$3\frac{1}{2}$ "	$3\frac{1}{2}$ "
Height of gap.....	$3\frac{1}{2}$ " x $4\frac{1}{4}$ "	$3\frac{1}{2}$ " x $5\frac{3}{4}$ "
Size of flywheel.....	2 horsepower	3 horsepower
Size of motor required.....	1,200	1,200
Speed of motor revolutions per minute.....	1,200	1,200

Depth of throat	Weight	Price
	Pounds	
8" on No. 1.....	1,200	\$600
12" on No. 2.....	2,700	705
18" on No. 2.....	3,000	790
24" on No. 2.....	3,800	890
30" on No. 2.....	4,800	995

EXTRAS

Motor Drive Arrangement, without motor (No. 1)..... \$76
Prices of complete machines cover regular belt driven arrangement, with either plain or architectural jaw. Unless otherwise specified, architectural jaw will be furnished (No. 2)..... 83

Extra charge for motor drive arrangement covers motor bracket, pinion and cutting fly-wheel gear, but does not include the motor.

These quick-acting punches are not geared, being designed for direct drive to flywheel.

KLING HORIZONTAL PUNCHES

	No. 4	No. 7
Punching capacity.....	$\frac{3}{4}$ " through $\frac{3}{4}$ "	$1\frac{1}{4}$ " through 1"
Depth of throat.....	7"	13"
Size of motor required.....	5 horsepower	7½ horsepower
Weight (approximately).....	6,150 pounds	10,000 pounds

Arranged for belt drive:
No. 4..... \$1,450
No. 7..... 2,060

Extra for direct motor drive arrangement:
No. 4..... 100
No. 7..... 130

Extra for gear guards:
No. 4..... 100
No. 7..... 135

Extra charge for motor drive arrangement covers motor bracket, pinion and gear, but does not include the motor.

KLING SINGLE END BEAM BENDER AND STRAIGHTENER

Capacity.....	15"	24"
I-beams up to.....	15"	24"
Channels up to.....	15"	Maximum standard.
Angles up to.....	8"	8"
Rails up to.....	90 pounds per yard	130 pounds per yard
Horsepower required.....	7½ horsepower	15 horsepower
Speed of motor recommended.....	1,200 revolutions per minute	1,200 revolutions per minute
Net weight (pounds).....	14,500	33,400

KLING BROTHERS ENGINEERING WORKS, 1300 NORTH KOSTNER AVENUE, CHICAGO, ILL.—Continued
Kling single end vertical geared punches—Continued

15 inches:	
Arranged for belt drive.....	\$2, 995
For direct motor drive arrangement.....	130
For gear guards complete.....	135
24 inches:	
Arranged for belt drive.....	5, 300
For direct motor drive arrangement.....	165
For gear guards complete.....	145

These machines are designed for bending and straightening I-beams, channels and other structural shapes and rails.

Machines are furnished for either belt drive with tight and loose pulleys as shown, or at an extra charge for geared motor drive.

BENDING END

Capacity:	
I-beams and channels.....	15".
Angles up to.....	8".
Rails up to.....	90 pounds per yard.

PUNCHING END

Punching capacity.....	1½" through 1".
Depth of throat.....	13".
Net weight, pounds.....	20,000.
Horsepower required to operate 1,200 r. p. m.....	10 horsepower.

These machines are designed for bending, straightening, and punching I-beams, channels, and other structural shapes.

Arranged for belt drive.....	\$3, 460
For direct motor drive arrangement.....	145
For gear guards.....	135

KLING BULLDOZERS

	No. 3	No. 6
Stroke of crosshead.....	16"	20"
Face of crosshead.....	39" x 10"	62" x 16"
Size of motor required.....	10 horsepower	20 horsepower.
Speed of motor (r. p. m.).....	1,200.	1,200.
Net weight.....	8,600 pounds.	25,000 pounds.

PRICE

Belt drive:	
No. 3.....	\$1, 870
No. 6.....	3, 600
For motor drive, less motor:	
No. 3.....	130
No. 6.....	195
For gear guards:	
No. 3.....	200
No. 6.....	265

This machine is used for a large variety of bending, pressing, forming, punching and shearing operations.

Both sizes are double-geared and fitted with friction clutch drive.

These machines can be furnished arranged either for belt drive or for direct geared motor drive as desired; in either case a friction clutch is incorporated in the drive mechanism.

KLING BROTHERS ENGINEERING WORKS, 1300 NORTH KOSTNER AVENUE, CHICAGO, ILL.—Continued
Kling single end vertical geared punches—Continued
POWER BAR BENDER

This machine is furnished arranged for direct motor drive.

	No. 1	No. 2
Capacity—round or square—hard grade steel to 180 around center pin.....	1¼"	2".
Horsepower motor required.....	15 horsepower.....	25 horsepower.
Speed of motor required (r. p. m.).....	1,800.....	1,200.
Weight—net, without motor.....	2,800 pounds.....	6,800 pounds.

Less motor:	
No. 1.....	\$1, 650
No. 2.....	3, 560

Regular equipment includes two stops, one set of dies, gear guards rawhide pinion and motor base.

KLING ANGLE BENDING ROLLS

Capacity, cold bending	No. 0	No. 1	No. 2
Mild steel:			
Angles.....	2" x 2" x ¼"	4" x 4" x ¼"	6" x 6" x ¼".
Tees.....	2" x 1½" x ¼"	5" x 3" x ¼"	Largest standard.
Zees.....	2" x 1½" x ¼"	5" x 3¼" x ¼"	6" x 3¼" x ¼".
Bar on edge.....	2" x ½"	4" x 1"	6" x 1".
Diameter of rolls.....	7"	18"	19¼"
Horsepower required.....	5.....	15 and 3.....	30 and 3.
Motor Speed—r. p. m.....	1,200.....	1,200.....	900.
Approximate net weight.....	2,900.....	15,500.....	22,000.

Belt driven:	
No. 0.....	\$1, 645
No. 1.....	4, 950
No. 2.....	6, 810
Motor driven, without motors:	
No. 0.....	1, 745
No. 1.....	5, 080
No. 2.....	6, 930
Gear guards:	
No. 0.....	105
No. 1.....	215
No. 2.....	245

No. 1 and No. 2 require a separate 3 horsepower reversing motor for power adjustment of the upper roll.

No. 1—Extra for power raise and lower (not including electrical equipment), \$385.

KLING PYRAMID TYPE PLATE BENDING ROLLS

Capacity full length	Length between housing	Diameter of rolls		Size of motor required	Weight approximate	Price
		Upper	Lower			
¼"	Feet Inches	Inches	Inches	Horsepower		
	6 2	6½	5	5	5, 850	\$1, 395
	8 2	7½	6	5	8, 000	2, 025
	10 2	8	7	7½	10, 000	2, 530
	12 2	10	8	10	14, 500	3, 035
¾"	6 2	7½	6	5	6, 500	1, 645
	8 2	8	7	7½	9, 000	2, 025
	10 2	10	8	10	13, 000	3, 340
	12 2	12	9	15	20, 000	4, 335
1"	6 2	8	7	7½	7, 300	1, 965
	8 2	10	8	10	11, 500	2, 910
	10 2	12	9	15	19, 500	3, 840
	12 2	13	9½	15	23, 000	4, 650
1½"	6 2	10	8	10	10, 000	2, 785
	8 2	12	9	15	17, 500	3, 715
	10 2	13	9½	15	22, 500	4, 650
	12 2	14	10	20	28, 500	5, 700

KLING BROTHERS ENGINEERING WORKS, 1300 NORTH KOSTNER
AVENUE, CHICAGO, ILL.—Continued

Kling single end vertical geared punches—Continued

KLING PYRAMID TYPE PLATE BENDING ROLLS—Continued

WITH POWER ADJUSTMENT FOR UPPER ROLL

Capacity full length	Length between housing	Diameter of rolls		Size of motor required	Weight approximate	Price
		Upper	Lower			
	Feet Inches	Inches	Inches	Horsepower		
1/2"	6 2	8	7	10	10,000	\$2,785
	8 2	10	8	10	15,000	3,715
	10 2	12	9	15	24,000	4,650
	12 2	13	9 1/2	15	27,000	5,820
	14 2	14	10	20	35,000	7,552
	16 2	15	11	25	44,000	8,360
3/8"	18 2	16	11 1/2	30	50,000	9,130
	20 2	17	12	30	57,500	9,900
	6 2	10	8	10	13,500	3,520
	8 2	12	9	15	22,000	4,275
	10 2	13	9 1/2	15	26,000	5,790
	12 2	14	10	20	32,000	7,330
1/4"	14 2	15	11	25	41,500	8,015
	16 2	16	11 1/2	30	47,500	9,285
	18 2	17	12	30	54,200	10,175
	20 2	18	13	35	68,000	15,455
	6 2	12	9	15	18,700	3,960
	8 2	13	9 1/2	15	24,000	5,500
3/16"	10 2	14	10	20	28,500	6,930
	12 2	15	11	25	40,000	7,810
	14 2	16	11 1/2	30	45,000	8,470
	16 2	17	12	35	51,000	9,660
	18 2	18	13	40	63,000	14,235
	20 2	20	14	40	81,000	17,325
5/16"	8 2	14	10	20	27,000	6,775
	10 2	15	11	25	35,000	7,480
	12 2	16	11 1/2	30	41,500	8,690
	14 2	17	12	35	47,500	9,900
	16 2	18	13	35	60,000	13,620
	18 2	20	14	40	76,500	17,325
1"	20 2	22	15 1/2	50	110,000	23,520
	8 2	15	11	25	32,000	7,125
	10 2	16	11 1/2	30	38,000	8,050
	12 2	17	12	35	46,000	9,660
	14 2	18	13	35	56,000	13,000
	16 2	20	14	40	72,000	16,095
	18 2	22	15 1/2	50	104,000	22,275

Prices listed above do not include gear guards.

KLING FRICTION SAWS

HAND FEED

Phase	Cycle	Volts	Size of motor required	Price
3	50	220	No. 0	\$1,145
			No. 1	2,190
			No. 2	2,940
			No. 2 1/2	3,160
3	50	440 or 550	No. 0 1	1,440
			No. 1	2,365
			No. 2	3,145
			No. 2 1/2	3,365
3	25	220, 440, 550	No. 0	1,440
			No. 1	3,200
			No. 2	3,475
			No. 2 1/2	3,650
3	230 d. c.		No. 0	1,630
			No. 1	3,565
			No. 2	3,840
			No. 2 1/2	4,490
3	115 d. c.		No. 0	1,575
			No. 1	3,280
			No. 2	3,565
			No. 2 1/2	4,090
3	550 d. c.		No. 0	1,575
			No. 1	3,280
			No. 2	3,565
			No. 2 1/2	4,090

1 Cannot supply No. 0 saw for 25 cycle operation.

KLING BROTHERS ENGINEERING WORKS, 1300 NORTH KOSTNER
AVENUE, CHICAGO, ILL.—Continued

Kling single end vertical geared punches—Continued

KLING FRICTION SAW—Continued

SELF-CONTAINED, CONSTANT PRESSURE, OIL FEED

	Size of motor required	Price
3 phase, 50 cycle, 220 volt	No. 1	\$3,060
	No. 2	3,830
	No. 2 1/2	4,070
	No. 3	4,785
	No. 3 1/2	5,470
	No. 4	6,380
3 phase, 50 cycle, 440 or 550 volt	No. 4 1/2	7,900
	No. 5	11,880
3 phase, 25 cycle, 220, 440, 550 cycle	No. 1	3,260
	No. 2	4,070
	No. 2 1/2	4,300
	No. 3	4,995
	No. 3 1/2	5,700
	No. 4	6,600
230 d. c.	No. 4 1/2	8,095
	No. 5	12,080
	No. 1	4,190
	No. 2	4,490
	No. 2 1/2	4,665
	No. 3	5,455
115 d. c.	No. 3 1/2	6,510
	No. 4	7,415
	No. 4 1/2	9,735
	No. 5	13,705
	No. 1	4,535
	No. 2	4,840
550 d. c.	No. 2 1/2	5,500
	No. 3	6,305
	No. 3 1/2	6,940
	No. 4	7,865
	No. 4 1/2	None
	No. 5	None
	No. 1	4,310
	No. 2	4,620
	No. 2 1/2	5,150
	No. 3	5,940
	No. 3 1/2	7,150
	No. 4	8,050
	No. 4 1/2	8,865
	No. 5	13,860

The downstroke friction saw equipped with pneumatic feed and 15 horsepower standard a. c. motor is (without work table) \$1,650
Equipped with 20 horsepower standard a. c. motor is 1,705
Equipped with 25 horsepower standard a. c. motor is 1,815
Our large downstroke saw is suitable for many sawing jobs and is regularly supplied without work table but with self-contained hydraulic feeding mechanism. It can be furnished with main motor from 40 to 75 horsepower arranged for friction sawing, with electrical equipment for 220 or 440 volts, 3 phase, 60 cycle, a. c. at following prices:

40 horsepower	3,990
50 horsepower	4,280
60 horsepower	4,630

FRICTION SAW BLADE DRESSING MACHINE

Machine complete with hob and milling cutters:

Belt drive with pulley	965
Geared motor drive without 2 horsepower 1,500-1,800 motor	1,075

KLING BROTHERS ENGINEERING WORKS, 1300 NORTH KOSTNER AVENUE, CHICAGO, ILL.—Continued

Kling single end vertical geared punches—Continued

CUTTING CAPACITIES, COLD, MILD STEEL KLING FRICTION SAWS

	0	1	2	2½	3	3½	4	4½	5
I-beams.....	8"	12"	18"	18"	24"	24"	30¾"	30¾"	Maxi- mum
Rolls (pounds).....	30	50	80	100	100	130	130	150	150
Rounds.....	1"	1½"	2"	3"	3"	4"	4"	4½"	4"
Squares.....	¾"	1½"	1½"	2½"	2½"	3½"	3½"	4"	4"
	0	1	2	2½	3	3½	4	4½	5
Horsepower.....	10	30	40	50	50	75	75	125	125
Shipping weight:									
Hand feed.....	1,438	4,300	5,660	6,060	10,040	10,420	17,270	18,395	28,875
Hydraulic feed.....		4,800	6,200	6,600					

DOUBLE ANGLE SHEARS

	No. 2	No. 3	No. 4	No. 5
Capacity—square cut.....	4" x 4" x ¾"	6" x 6" x ¼", 6" x 6" x 1"	8" x 8" x ¼"	8" x 8" x 1½"
Flywheel—size.....	44" x 7" x 5" x 2½"	54" x 5½" x 5" x 3"	54" x 7" x 5" x 3½"	66" x 8" x 8" x 4"
Motor recommended.....	5 horsepower	10 horsepower	20 horsepower	25 horsepower
Net weight.....	13,000 pounds	21,000 pounds	38,000 pounds	48,000 pounds
Turntable:				
Diameter.....	72"	89"	118"	118"
Weight.....	4,000 pounds	6,500 pounds	13,000 pounds	13,000 pounds

Price with C. I. cut gears:	\$3,035
No. 2.....	4,495
No. 3.....	8,250
No. 4.....	None
No. 5.....	
Price with steel cut gears:	3,260
No. 2.....	4,760
No. 3.....	8,625
No. 4.....	10,150
No. 5.....	
Extra for gear guards:	160
No. 2.....	210
No. 3.....	265
No. 4.....	265
No. 5.....	
Extra for turntable:	635
No. 2.....	880
No. 3.....	1,595
No. 4.....	1,595
No. 5.....	

Kling angle shears are of the double shaft driven type, each slide having its own clutch with automatic stop, and operating independently of the other slide.

KLING BROTHERS ENGINEERING WORKS, 1300 NORTH KOSTHER AVENUE, CHICAGO, ILL.—Continued

KLING GUILLotine TYPE BARS SHEARS

	No. 1	No. 3	No. 4	No. 6
Capacity, mild steel:				
Round bars.....	1½"	2½"	3"	6"
Square bars.....	1½"	2½"	2½"	5"
Flat bars.....	4" x ¾"	8" x 1½"	10" x 1½"	20" x 1½"
Angles.....	4" x 4" x ¾"	6" x 6½"	6" x 6" x ¾"	8" x 8" x 1½"
Size of motor required.....	7½ horsepower	10 horsepower	15 horsepower	40 horsepower
Speed of motor recommended.....	1,200 r. p. m.	1,200 r. p. m.	800 r. p. m.	900 r. p. m.
Net weight (Approximate).....	5,400 pounds	11,000 pounds	7,000 pounds	79,000 pounds

Belt drive:

No. 1.....	\$1,370
No. 3.....	2,635
No. 4.....	3,795
No. 6.....	18,095

Motor drive without motor:

No. 1.....	1,550
No. 3.....	2,750
No. 4.....	3,920
No. 6.....	18,290

ADDITIONAL EQUIPMENT

Bar-shearing equipment and adjustable bar hold-down attachment. Belt-driven machines are equipped with tight and loose pulleys.

Extra charge for motor-drive arrangement includes sub-base for motor, pinion, and gearing, but does not include motor.

TYPE "TT" GRINDER—FOR 30" X 4" X 12" GRINDING WHEELS

Type "TT" grinder equipped for five-speed changes and with 220-440 or 550 volt, 3 phase, 60 cycle electrical equipment—price, complete, f. o. b. our plant, not including wheels.....	\$1,720
Type "TT" grinder, same as above except with 230 volt, direct current electrical equipment—price, complete, not including wheels.....	1,950

TYPE "ST" GRINDER—FOR 24" X 3" X 12" GRINDING WHEELS

Type "ST" grinder equipped for three-speed changes and with 220-440 or 550 volt, 3 phase, 60 cycle electrical equipment—price, complete, f. o. b. our plant, not including wheels.....	1,330
Type "ST" grinder, same as above except with 230 volt direct current electrical equipment—price, complete, not including wheels.....	1,575

TYPE "RT" GRINDER—FOR 18" X 2" X 7" GRINDING WHEELS

Type "RT" grinder equipped for three-speed changes and with 5 horsepower motor 220-44-550 volt, 3 phase, 60 cycle electrical equipment—price, complete, f. o. b. our plant, not including wheels.....	880
Type "RT" grinder same as above except with 230 volt, direct current electrical equipment—price, complete, excepting wheels.....	1,030
Type "RT" grinder equipped for three-speed changes and with 7½ horsepower, 220-440-550 volt, 3 phase, 60 cycle electrical equipment—price, complete, f. o. b. our plant, not including wheels.....	925
Type "RT" grinder, same as above, with 230 direct current equipment (except wheels).....	1,095

W. B. KNIGHT MACHINERY CO., ST. LOUIS, MO.

MILLING MACHINES—PRICES AND SPECIFICATIONS

Size No.	Table travel		Spindle head travel on column	Table working surface	Weight	Price
	Longitudinal	Transverse				
	Inches	Inches	Inches	Inches	Pounds	
20.....	23	10	12	9 x 33½	5,900	\$5,170
30.....	25	12	14	10 x 42	4,000	4,290
40.....	28	14	15	12 x 46	3,000	3,520
1½.....					1,600	1,050
1.....					750	535

No. 2 discontinued price Mar. 1, 1941, \$1,800.

L & J PRESS CORPORATION, ELKHART, IND.

LIST PRICES OF L & J PRESSES

Model No.	Weight	List price, f. o. b. Elkhart, Ind.	Model No.	Weight	List price, f. o. b. Elkhart, Ind.
0 bench.....	300	\$175	5.....	5,700	\$930
0 stand.....	510	195	5 special geared.....	6,000	1,030
1.....	1,000	280	4 geared.....	4,017	970
1 special.....	1,050	292	4½ geared.....	4,500	1,060
2.....	1,350	345	5 geared.....	6,700	1,220
2 special.....	1,400	357	5 special geared.....	6,900	1,320
3.....	2,050	475	4 combination geared.....	4,167	1,005
3 special.....	2,150	488	4½ combination geared.....	4,650	1,125
4.....	3,600	675	5 combination geared.....	6,850	1,285
4½.....	4,100	795	5 special combination geared.....	7,050	1,385

WILLIAM LAIDLAW, INC., BELMONT, N. Y.

SAWS

[Crated f. o. b.]

For machines with other than the standard electrical equipment regularly furnished, prices will be quoted on request

	Consumer's price
1 Type C. M. T. With hydraulic feed, has 30" disk wheels, distance from table to upper saw guide when in highest position 12", cuts long or short pieces on both sides at the same time, 4-speed sliding gear transmission, ball bearing throughout, all gears run in oil, motor gear reduction and transmission unit housed in base of machine. Complete with standard ball bearing alternating current motor, with overload control, starting switch, 2 stock stands and 2 saws.....	\$1,445.75
2 Type C. M. T. Same as above except with gravity feed. (Shipping weight approximately 3,700 pounds.).....	1,185.50
3 Type J. M.-30". With hydraulic feed, has 30" disc wheels, steel table 18" x 8", capacity 18" x 40", 4 or 8 speeds, standard 2 horsepower alternating current motor, with overload control starting switch. (Shipping weight approximately 2,600 pounds.).....	1,185.50
4 Type J. M.-30". With 8 speeds, gravity feed, 30" disc wheels, capacity of vise 12", travel of carriage 12", 18" from table to upper saw guide. Complete with standard alternating current motor with overload control, starting switch, stock stand and 2 saw blades. (Shipping weight approximately 2,000 pounds.).....	875.50
5 Type J. M.-30". Same as above except with 4 speeds.....	840.25

WILLIAM LAIDLAW, INC., BELMONT, N. Y.—Continued

SAWS—continued

Consumer's price

6 Type S. M.-30". With 8 speeds 30" round or square table. Complete with 2 horsepower standard alternating current motor with overload control starting switch and 2 saw blades.....	\$760.75
Same as above equipped with 30" square tilting table.....	800.75
7 Type S. M.-30". Same as above except with 4 speeds.....	720.75
Equipped with tilting table.....	760.75

NOTE.—30" saws having a speed of 1,450 feet and over require a 3 horsepower motor. Additional cost to be added to above prices.

8 Type J. M. With hydraulic feed, has 20" wheels, vise 12" x 4½" with opening, travel of carriage 10", distance from table to upper guide when in highest position 9", 8 speed changes through short endless belt and gear box drive, ball bearing throughout. Complete with standard alternating current motor with overload control starting switch, stock stand and 2 saws.....	815.00
9 Type J. M. Same as above except with gravity feed. (Shipping weight approximately 1,350 pounds.).....	700.00
10 Type J. M. With gravity feed, has 20" wheels, capacity of vise 6", travel of carriage 6½", distance from table to upper guide when in highest position 9", 8 speed changes through short endless belt and gear box drive, ball bearing throughout. Complete with standard alternating current motor with overload control, starting switch, stock stand and 2 saws. (Shipping weight approximately 1,200 pounds.).....	635.25
11 Type S. M. Has 20" wheels, 24" round or square table, distance from table to upper guide when in highest position 10", 8 speeds through short endless belt and gear box drive. Complete with standard alternating current motor, overload control starting switch and 2 saw blades. (Shipping weight approximately 850 pounds.).....	504.00
12 Type S. M. Same as above except with 4 speeds. (Shipping weight approximately 850 pounds.).....	464.00
13 Type S. M. 20" equipped with tilting table add \$40 to above prices.	

NOTE.—20" saws having a speed of 1,450 feet and over require a 1½ horsepower motor. Additional cost to be added to above prices.

14 Saw guides. All are ball bearing, roller type. The ¼" and ⅜" are made up on one roller. 4 flanged rollers and 2 plain rollers make a complete set. ½" rollers will accommodate 1 size only, ⅝" rollers will accommodate 1 size only.....	20.00
Complete set of replacement rollers consisting of 4 flanged and 2 plain rollers from ¼" up to ⅝".....	11.50
15 Saw guides. Complete set of saw guides with rollers for ¾" or 1" saw blade.....	22.50
Complete set of replacement rollers consisting of 4 flanged and 2 plain rollers from ¾" up to 1".....	13.50
When saws ½" wide or wider are used we recommend plain iron wheels but if saws narrower than ½" are to be used, it is necessary to use rubber tired wheels. Unless otherwise ordered all machines are shipped with iron wheels.	
16 Model 110 J. R. Portable bandsaw butt welder. Capacity blades ¼" to ¾" in width for 110 volts, 15 amperes. Can be plugged into any light socket.....	130.00
The same as above less portable stand.....	115.00
Can also be furnished with capacity ¼" to 1" for an additional \$25.00	
C. M. T.-N.....	1,925.00

LANDIS MACHINE CO., WAYNESBORO, PA.

LANDIS STANDARD THREADING MACHINES

[Plain machines arranged for motor drive but without motor]

Size	Net weight	Price	Size	Net weight	Price
	Pounds			Pounds	
1/4" single.....	1,150	\$825	1/4" double.....	1,750	\$1,455
1/2" single.....	1,150	960	1" double.....	2,750	2,085
1" single.....	1,750	1,235	1 1/2" double.....	2,850	2,220
1 1/2" single.....	1,800	1,310	2" double.....	4,350	2,750
2" single.....	2,500	1,650	2 1/2" double.....	4,500	3,140
2 1/2" single.....	2,600	1,960	4" double.....	9,000	5,400
3" single.....	5,200	3,015	1" triple.....	3,800	2,605
4" single.....	5,500	3,400	1 1/2" triple.....	4,350	3,120
1/2" double.....	1,750	1,390	2" triple.....	6,200	3,870

[Machines equipped with leadscrew attachments, arranged for motor but without motor]

1/4" single.....	1,150	\$1,135	1/4" double.....	1,750	\$1,875
1/2" single.....	1,150	1,170	1" double.....	2,750	2,535
1" single.....	1,750	1,485	1 1/2" double.....	2,850	2,720
1 1/2" single.....	1,800	1,560	2" double.....	4,350	3,370
2" single.....	2,500	1,960	2 1/2" double.....	4,500	3,790
2 1/2" single.....	2,600	2,270	4" double.....	9,000	6,230
3" single.....	5,200	3,430	1" triple.....	3,800	3,355
4" single.....	5,500	3,815	1 1/2" triple.....	4,350	3,870
1/2" double.....	1,750	1,810	2" triple.....	6,200	4,800

LANDMACO THREADING MACHINES

[Plain machines arranged for motor drive but without motor]

1" single.....	2,600	\$1,595	1 1/2" double.....	4,950	\$2,805
1 1/2" single.....	2,900	1,695	2" double.....	5,900	3,695
2" single.....	3,600	2,355	2 1/2" double.....	5,950	3,990
2 1/2" single.....	3,650	2,790	1" quadruple.....	8,300	5,950
1" double.....	4,500	2,510	1 1/2" quadruple.....	8,500	6,320

[Machines equipped with leadscrew attachments, arranged for motor but without motor]

1" single.....	2,600	\$1,910	1 1/2" double.....	4,950	\$3,435
1 1/2" single.....	2,900	2,010	2" double.....	5,900	4,435
2" single.....	3,600	2,725	2 1/2" double.....	5,950	4,730
2 1/2" single.....	3,650	3,160	1" quadruple.....	8,300	6,500
1" double.....	4,500	3,140	1 1/2" quadruple.....	8,500	6,870

PIPE THREADING AND CUTTING MACHINES

[Machines arranged for motor drive but without motor]

2" little Landis.....	1,075	\$545	10" pipe machine.....	15,800	\$5,370
2" standard machine.....	3,000	1,550	12" pipe machine.....	15,800	6,140
4" pipe machine.....	5,400	2,560	16" pipe machine.....	19,000	8,020
6" pipe machine.....	9,800	3,175	18" pipe machine.....	23,100	9,570
8" pipe machine.....	10,500	3,565	20" pipe machine.....	23,300	10,120

LANDIS MACHINE CO., WAYNESBORO, PA.—Continued

PIPE THREADING AND CUTTING MACHINES WITH RECEDING CHASER DIE HEADS

[Machines arranged for motor drive but without motor]

Size	Net weight	Price	Size	Net weight	Price
	Pounds			Pounds	
4 3/4".....	6,950	\$3,870	13 3/4".....	18,200	\$8,625
5 3/4".....	11,050	4,895			

LANDMACO PIPE AND NIPPLE THREADING MACHINES

[Machines arranged for motor drive but without motor]

1 1/4" single.....	2,510	\$1,945	1 1/4" double.....	4,170	\$3,325
2" single.....	2,750	2,665	2" double.....	4,450	4,335

STANDARD PIPE AND NIPPLE THREADING MACHINES

[Machines arranged for motor drive but without motor]

1/4" single.....	1,150	\$1,075	1/4" double.....	1,750	\$1,655
1/2" single.....	1,800	1,525	1 1/2" double.....	2,900	2,610
2" single.....	2,500	1,890	2" double.....	4,300	3,230
4" single.....	5,600	3,915	4" double.....	9,000	6,205

LANDMACO SHELL TAPPERS

[Machines arranged for motor drive but without motor]

1 1/4 R single.....	2,900	\$3,350	1 1/2 HO double.....	4,950	\$4,550
1 1/2 HO single.....	2,900	2,725			

AUTOMATIC FORMING AND THREADING MACHINES

[Machines arranged for motor drive but without motor]

3/4".....	4,700	\$4,360	1".....	4,700	\$4,560
-----------	-------	---------	---------	-------	---------

FOUR SPINDLE SEMIAUTOMATIC THREADING MACHINE

[Machine arranged for motor drive but without motor]

3/4".....			6,550	\$6,800
-----------	--	--	-------	---------

CHASER GRINDERS

[Machines equipped with 220 volt—3-phase—60-cycle motors]

Model "O".....	225	\$265	No. 1 1/4.....	1,395	\$365
No. 1.....	675	440			

LANDIS TOOL CO.

CURRENT PRICES OF LANDIS GRINDING EQUIPMENT

Machine	Net weight	Price, including standard equipment	Machine	Net weight	Price, including standard equipment
4" x 12" type H plain.....	4,000	\$3,955	18" x 48" type C universal.....	8,600	\$7,896
4" x 18" type H plain.....	4,400	4,230	18" x 72" type C universal.....	10,200	8,560
10" x 18" type DC plain.....	11,800	9,005	3" type C chucking.....	3,200	4,600
10" x 36" type DC plain.....	12,850	9,485	10" x 16" type D crank.....	15,200	11,045
10" x 48" type DC plain.....	13,550	10,105	10" x 34" type D crank.....	15,500	11,765
10" x 72" type DC plain.....	14,950	11,325	14" x 16" type D crank.....	15,400	11,835
14" x 36" type D plain.....	13,050	11,850	14" x 34" type D crank.....	15,700	12,635
14" x 48" type D plain.....	13,750	12,480	16" x 32" type D crank.....	17,700	14,885
14" x 72" type D plain.....	15,150	13,165	16" x 42" type D crank.....	18,000	15,475
16" x 36" type D plain.....	13,350	12,310	16" x 62" type D crank.....	21,400	17,290
16" x 48" type D plain.....	14,050	12,745	16" x 72" type D crank.....	21,700	17,900
16" x 72" type D plain.....	15,450	13,590	5" x 26" type D cam.....	12,700	13,295
6" x 18" type C plain.....	5,500	4,505	5" x 30" type D cam.....	12,900	13,565
6" x 30" type C plain.....	6,000	4,855	5" x 36" type D cam.....	13,100	13,860
10" x 18" type LC plain.....	5,600	5,410	5" x 40" type D cam.....	13,300	14,035
10" x 30" type LC plain.....	6,100	5,765	18" radial cam.....	7,150	9,075
10" x 18" type C plain.....	8,000	7,675	No. 1 Race-a-way.....	3,500	4,345
10" x 36" type C plain.....	9,300	8,080	No. 2 Race-a-way.....	4,800	4,540
10" x 48" type C plain.....	10,125	8,470	36" x 120" type 30 roll.....	110,700	42,140
10" x 72" type C plain.....	11,925	8,870	36" x 144" type 20 roll.....	114,700	42,970
10" x 96" type C plain.....	16,800	9,415	36" x 168" type 20 roll.....	118,700	43,880
10" x 120" type C plain.....	18,500	9,970	36" x 192" type 20 roll.....	122,700	44,855
14" x 18" type C plain.....	8,500	8,475	36" x 216" type 20 roll.....	126,700	45,930
14" x 36" type C plain.....	9,800	8,880	36" x 240" type 20 roll.....	130,700	47,065
14" x 48" type C plain.....	10,625	9,270	44" x 144" type 30 roll.....	130,800	48,825
14" x 72" type C plain.....	12,425	9,670	44" x 168" type 30 roll.....	134,800	49,685
14" x 96" type C plain.....	17,300	10,215	44" x 192" type 30 roll.....	138,800	50,545
14" x 120" type C plain.....	19,000	10,770	44" x 216" type 30 roll.....	142,800	51,405
10" x 96" type BD plain.....	17,800	12,915	44" x 240" type 30 roll.....	146,800	52,265
10" x 120" type BD plain.....	19,800	14,030	44" x 264" type 30 roll.....	150,800	53,125
14" x 96" type BD plain.....	18,900	14,150	44" x 288" type 30 roll.....	154,800	53,985
14" x 120" type BD plain.....	20,900	15,460	50" x 144" type 30 roll.....	138,800	50,225
16" x 96" type B plain.....	27,500	17,300	50" x 168" type 30 roll.....	142,800	51,085
16" x 120" type B plain.....	30,500	19,020	50" x 192" type 30 roll.....	146,800	51,945
16" x 144" type B plain.....	33,500	20,745	50" x 216" type 30 roll.....	150,800	52,805
16" x 168" type B plain.....	36,500	22,430	50" x 240" type 30 roll.....	154,800	53,665
16" x 192" type B plain.....	39,500	24,155	50" x 264" type 30 roll.....	158,800	54,525
20" x 96" type B plain.....	36,000	27,310	50" x 288" type 30 roll.....	162,800	55,385
20" x 120" type B plain.....	41,000	29,375	60" x 144" type 30 roll.....	155,700	55,600
20" x 144" type B plain.....	46,000	31,445	60" x 168" type 30 roll.....	159,700	56,460
20" x 168" type B plain.....	51,000	33,545	60" x 192" type 30 roll.....	163,700	57,320
20" x 192" type B plain.....	56,000	35,610	60" x 216" type 30 roll.....	167,700	58,180
24" x 96" type B plain.....	38,500	29,180	60" x 240" type 30 roll.....	171,700	59,040
24" x 120" type B plain.....	43,500	31,240	60" x 264" type 30 roll.....	175,700	59,900
24" x 144" type B plain.....	48,500	33,320	60" x 288" type 30 roll.....	179,700	60,760
24" x 168" type B plain.....	53,500	35,420	16" x 96" type B roll.....	30,000	20,640
24" x 192" type B plain.....	58,500	37,480	16" x 120" type B roll.....	33,000	22,365
28" x 96" type B plain.....	40,000	31,120	16" x 144" type B roll.....	36,000	24,090
28" x 120" type B plain.....	45,000	33,230	16" x 168" type B roll.....	39,000	25,775
28" x 144" type B plain.....	50,000	35,300	16" x 192" type B roll.....	42,000	27,460
28" x 168" type B plain.....	55,000	37,400	20" x 96" type B roll.....	39,100	30,880
28" x 192" type B plain.....	60,000	39,470	20" x 120" type B roll.....	44,100	32,945
10" x 24" type C universal.....	4,155	4,785	20" x 144" type B roll.....	49,100	35,025
12" x 30" type C universal.....	5,350	5,570	20" x 168" type B roll.....	54,200	37,120
12" x 36" type LC universal.....	5,535	5,895	20" x 192" type B roll.....	59,000	39,730
12" x 40" type LC universal.....	5,750	6,070	24" x 96" type B roll.....	41,000	32,910
12" x 48" type LC universal.....	6,100	6,500	24" x 120" type B roll.....	46,000	34,980
12" x 48" type C universal.....	7,500	6,595	24" x 144" type B roll.....	51,000	37,050
12" x 48" type C universal.....	8,300	7,260	24" x 168" type B roll.....	56,000	39,150
12" x 72" type C universal.....	9,900	7,925	24" x 192" type B roll.....	61,000	41,250
14" x 36" type C universal.....	7,600	6,805	28" x 96" type B roll.....	42,500	35,005
14" x 48" type C universal.....	8,400	7,470	28" x 120" type B roll.....	47,500	37,120
14" x 72" type C universal.....	10,000	8,135	28" x 144" type B roll.....	52,500	39,185
16" x 36" type C universal.....	7,700	7,045	28" x 168" type B roll.....	57,500	41,285
16" x 48" type C universal.....	8,500	7,685	28" x 192" type B roll.....	62,500	43,310
16" x 72" type C universal.....	10,100	8,350	18" x 66" type C regrinding.....	10,800	9,370
18" x 36" type C universal.....	7,800	7,225	22" x 72" type C regrinding.....	16,400	9,530

*All machines so indicated are supplied with complete electrical equipment as a part of standard equipment and therefore this electrical equipment is included in the price. Machines not so indicated do not have the electrical equipment as a part of standard equipment and the prices given therefore do not include electrical equipment.

LANGELEI MANUFACTURING COMPANY, PROVIDENCE, R. I.

No. 41 drill, sensitive.....	\$150	No. 3 hammering machine.....	\$1,100
No. 11 drilling unit.....	450	A swager.....	250
No. 31 drilling unit.....	700	B swager.....	600
No. 12 tapper.....	450	C swager.....	800
No. 22 tapper.....	600	E swager.....	1,600
No. 1 hammering machine.....	500	G swager.....	2,200
No. 2 hammering machine.....	750	H swager.....	3,000

Prices shown above are for the base machines without electrical equipment.

THE LAPOINTE MACHINE TOOL CO., HUDSON, MASS.

LAPOINTE TYPE "SPD" SMALL PULL DOWN VERTICAL BROACHING MACHINES

	Size of machine			
	SPD 4-12	SPD 6-18	SPD 8-24	SPD 10-24
Complete machine (see standard equipment).....	\$1,925	\$2,310	\$2,640	\$2,860

The above prices do not include electrical equipment.

LAPOINTE TYPE "CPC" CAST HYDRAULIC PRESS

	Size of machine				
	CPC-5-12	CPC-5-18	CPC-5-24	CPC-5-30	CPC-5-36
Complete machine (see standard equipment).....	\$1,700	\$1,725	\$1,750	\$1,775	\$1,800
Additional, hardened ways.....	150	150	150	150	150
Additional, coolant pump.....	50	50	50	50	50
Additional, hand-operated broach lift.....	200	200	200	200	200

	Size of machine				
	CPC-6-12	CPC-6-18	CPC-6-24	CPC-6-30	CPC-6-36
Complete machine (see standard equipment).....	\$1,825	\$1,850	\$1,875	\$1,900	\$1,925
Additional, hardened ways.....	150	150	150	150	150
Additional, coolant pump.....	50	50	50	50	50
Additional, hand-operated broach lift.....	200	200	200	200	200

	Size of machine			
	CPC-8-18	CPC-8-24	CPC-8-30	CPC-8-36
Complete machine (see standard equipment).....	\$2,295	\$2,335	\$2,375	\$2,415
Additional, hardened ways.....	150	150	150	150
Additional, coolant pump.....	50	50	50	50
Additional, hand-operated broach lift.....	200	200	200	200

	Size of machine			
	CPC-10-18	CPC-10-24	CPC-10-30	CPC-10-36
Complete machine (see standard equipment).....	\$2,485	\$2,535	\$2,585	\$2,635
Additional, hardened ways.....	150	150	150	150
Additional, motorized lubricant pump.....	50	50	50	50
Additional, hand-operated broach lift.....	200	200	200	200

THE LAPOINTE MACHINE TOOL CO., HUDSON, MASS.—Continued

LAPOINTE TYPE "CPC" CAST HYDRAULIC PRESS—Continued

	Size of machine			
	CPC-12-18	CPC-12-24	CPC-12-30	CPC-12-36
Complete machine (see standard equipment).....	\$2,690	\$2,750	\$2,810	\$2,870
Additional, hardened ways.....	150	150	150	150
Additional, motorized coolant pump.....	50	50	50	50
Additional, hand-operated broach lift.....	200	200	200	200

	Size of machine			
	CPC-15-18	CPC-15-24	CPC-15-30	CPC-15-36
Complete machine (see standard equipment).....	\$3,060	\$3,120	\$3,180	\$3,240
Additional, hardened ways.....	150	150	150	150
Additional, coolant pump.....	50	50	50	50
Additional, hand-operated broach lift.....	200	200	200	200

The above prices do not include main motor or starting switch.

LAPOINTE "UNIVERSAL TYPE" BROACH SHARPENER

	Size of machine		
	60 inches	72 inches	80 inches
Complete machine—With motors (see standard equipment).....	\$3,245	\$3,465	\$3,630
Accessories ¹			

¹ See price sheet.

LAPOINTE TYPE "SRV" SINGLE RAM SURFACE BROACHING MACHINES

	Size of machine				
	SRV 3-30	SRV 3-48	SRV 5-42	SRV 5-54	SRV 10-42
Complete machine (see standard equipment).....	\$3,580	\$3,965	\$4,175	\$4,585	\$5,860

	Size of machine				
	SRV 10-54	SRV 15-48	SRV 15-66	SRV 25-48	SRV 25-66
Complete machine (see standard equipment).....	\$6,250	\$7,490	\$8,490	\$10,105	\$11,500
Extra equipment. ¹ (See list below.)					

¹ Prices on request.

LAPOINTE TYPE "DRV" DOUBLE RAM SURFACE BROACHING MACHINES

	Size of machine				
	DRV 3-30	DRV 3-48	DRV 5-42	DRV 5-54	DRV 10-42
Complete machine (see standard equipment).....	\$5,370	\$5,945	\$6,260	\$6,875	\$8,790

	Size of machine				
	DRV 10-54	DRV 15-48	DRV 15-66	DRV 25-48	DRV 25-66
Complete machine (see standard equipment).....	\$9,375	\$11,235	\$12,720	\$15,155	\$17,250
Extra equipment. ¹ (See list below.)					

¹ Prices on request.

THE LAPOINTE MACHINE TOOL CO., HUDSON, MASS.—Continued

LAPOINTE TYPE "V" VERTICAL HYDRAULIC BROACHING MACHINES

	Size of machine			
	V-1	V-2	V-3	V-4
Complete machine ¹ (see standard equipment).....	\$5,350	\$7,175	\$8,790	\$9,335

	Size of machine			
	V-5	V-7	V-8	V-9
Complete machine ¹ (see standard equipment).....	\$10,450	\$12,950	\$15,470	\$17,425
Automatic broach lifters ²				
Automatic broach pullers ²				

¹ The above prices do not include main motor or starter.

² Prices on request.

² See automatic broach pullers and lifters.

LAPOINTE "L" TYPE HYDRAULIC BROACHING MACHINES

[F. O. B. Hudson, Mass., U. S. A.]

	Size of machine			
	2 SL	2 SL6	2 L	2 L6
Complete machine ¹ (see standard equipment).....	\$2,550	\$2,700	\$2,800	\$3,135
Sliding broach support with soft ways and broach clamping fixture.....	245	245	275	275
Sliding broach support with hardened steel ways and broach-clamping fixture.....	330	330	355	355
Additional reducing bushing.....	10	10	10	10
Additional pull bushing.....	10	10	10	10

	Size of machine			
	3 L	3 L S	3½ L	4 L
Complete machine ¹ (see standard equipment).....	\$3,600	\$4,600	\$5,300	\$7,550
Sliding broach support with soft ways and broach-clamping fixture.....	300	410	410	410
Sliding broach support with hardened steel ways and broach-clamping fixture.....	385	495	495	495
Additional reducing bushing.....	10	18	18	18
Additional pull bushing.....	10	15	15	15

¹ Prices do not include electrical equipment.

LAPOINTE "HP TYPE" HORIZONTAL HYDRAULIC BROACHING MACHINES

	Size of machine		
	HP-15	HP-20	HP-30
Complete machine ¹ (see standard equipment).....	\$3,200	\$3,525	\$4,500
Sliding broach support with soft ways and broach-clamping fixture.....	300	300	325
Sliding broach support with hardened steel ways and broach-clamping fixture.....	400	400	425

	Size of machine			
	HP-40	HP-50	HP-75	HP-100
Complete machine ¹ (see standard equipment).....	\$4,950	\$6,750	\$8,300	\$10,900
Sliding broach support with soft ways and broach-clamping fixture.....	450	450	450	775
Sliding broach support with hardened steel ways and broach-clamping fixture.....	550	550	550	875

¹ Prices do not include main motor or starting switch.

THE LAPOINTE MACHINE TOOL CO., HUDSON, MASS.—Continued

LAPOINTE SCREW TYPE BROACHING MACHINES

	Size of machine						
	No. 0	No. 1	No. 2	No. 2 short stroke	No. 3	No. 4	No. 3 duplex
Complete belt-driven machine.....	\$720	\$1,375	\$1,650	\$1,430	\$1,870	\$2,475	\$2,915
Complete motor-driven machine ¹	900	1,565	1,870	1,675	2,100	2,860	3,245
Broach guiding trays.....		175	175	175	200	250	350

¹ Motor drive prices do not include motor or starter.

BROACH SHARPENER ACCESSORIES—MAGNETIC CHUCKS

[Electromagnetic type]

	No.	Working surface	Magnetic surface	Watts used	Shipping weight	Price ¹
		<i>Inches</i>	<i>Inches</i>		<i>Pounds</i>	
Complete with switch, 2 adjustable stop plates, and hold-down clamps.	408	4 by 8.....	3 by 7.....	27	50	\$70
	618	6 by 18.....	4½ by 16¾.....	60	125	115
	624	6 by 24.....	5¼ by 22¾.....	75	150	150
	1,060	10 by 60.....	8¾ by 57½.....	460	665	550

¹ Prices of other size chucks will be quoted upon request.

These chucks are available for use on 110- or 220-volt direct current. To avoid delay, voltage should be specified in order. These chucks cannot be used on alternating current (A. C.) circuits.

VISES FOR FLAT BROACHES¹

No.	Width of jaws	Depth of jaws	Jaws open	Height	Net weight	Shipping weight	Price, each
	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Pounds</i>	<i>Pounds</i>	
21 F.....	4½	1½	2	2½	21	26	\$50
22 F.....	5½	1¾	2¾	3¼	34	42	60
23 F ²	6½	1¾	3¾	3½	53	62	75
24 F.....	7½	2	4½	4½	98	113	115

¹ In most cases 2 vises are required.² Magnetic chucks are recommended for holding broaches over 3½" wide.

FREQUENCY CHANGER

Frequency changer with 2 fixed speeds¹.....\$600¹ Frequency changers are furnished with speeds of 3,600 and 7,200 r. p. m., for 60-cycle current. Frequency changers for use with 50-cycle current will have speeds of 3,000 and 6,000 r. p. m. Other combinations of two fixed speeds may be provided. Prices will be quoted upon request.

AUTOMATIC BROACH PULLERS AND LIFTERS

Outside diameter of broach	Automatic broach puller, each	Automatic broach lifter	
		Price, each	Type
Up to and including 1¼"	\$65	\$110	1 finger.
Over 1¼" to 1¾"	110	110	1 finger.
Over 1¾" to 2½"	110	190	2 finger.
Over 2½" to 3"	165	220	2 finger.
Over 3"	220	275	2 finger.

NOTE.—Broach pullers and lifters are made in any one size within the above ranges. Price is for any one size of puller or lifter within the corresponding size range. The above listed pullers are for use only with slotted broach shanks and for vertical pull-down machines.

THE R. K. LEBLOND MACHINE TOOL CO., CINCINNATI, OHIO

HEAVY DUTY LATHES

Size	Weight, base length	Price	Extra 2 feet of bed	Extra taper attachment
	<i>Pounds</i>			
12" x 30".....	3,160	\$2,885	\$105	\$252
14" x 30".....	3,210	3,130	115	268
16" x 30".....	4,900	3,450	125	286
18" x 30".....	5,040	3,850	145	303
20" x 48".....	7,350	5,100	182	370
22" x 48".....	7,650	5,450	194	370
24" x 48".....	11,200	7,100	254	418
27" x 48".....	12,465	7,650	273	418
30" x 60".....	15,300	9,500	345	484
36" x 60".....	16,100	10,000	360	484
42" x 60".....	35,100	14,850	512	935
48" x 60".....	36,300	15,950	545	990

Above arranged for M. D., not including motors.

REGAL TYPE

Size	Weight	Price	Extra 2 feet of bed	Extra taper attachment
	<i>Pounds</i>			
13" x 18" floor type.....	1,045	\$847	\$40	-----
13" x 18" bench type.....	970	826	40	-----
15" x 18" floor type.....	1,240	1,009	40	-----
17" x 30" floor type.....	1,985	1,299	60	-----
19" x 30" floor type.....	2,225	1,569	74	-----
21" x 36" floor type.....	4,150	2,784	124	-----
24" x 36" floor type.....	4,275	3,218	124	-----

Regal prices include 3-phase, 60-cycle motors.

No. 1 Universal tool and cutter grinder:

With universal equipment.....	\$1,550
With plain equipment.....	1,096

Complete with motor and starter.

THE LEES-BRADNER CO., CLEVELAND, OHIO

Type machine	Model	Weight	Price
		<i>Pounds</i>	
Gear hobber.....	14" 5-AC.....	6,000	\$4,500
	19" 5-AC.....	6,100	4,800
Rotary gear hobber.....	7-AC single spindle.....	5,800	3,500
	7-AC 4-spindle.....	24,750	16,000
	7-AC 6-spindle.....	36,300	20,000
	7-AC 8-spindle.....	44,750	24,000
Vertical gear hobber.....	12-S.....	8,000	4,400
Horizontal spline hobber.....	SH 6 x 54".....	9,000	6,000
Gear tester.....		622	1,500
Lead tester.....		1,252	2,750
Gear grinder.....	10-B.....	6,000	6,500
Light thread miller.....	2-HS.....	16,800	13,900
	LT 6" x 36".....	5,600	5,100
	LT 6" x 72".....	7,400	5,800
	LT 6" x 132".....	11,000	8,350
Heavy thread miller.....	HT 12" x 24".....	6,995	6,100
	HT 12" x 30".....	7,300	6,300
	HT 12" x 36".....	7,650	6,400
	HT 12" x 54".....	8,000	6,550
Thread miller.....	HT 12" x 102".....	10,000	7,250
	CT 36".....	9,150	7,100
	CT 54".....	9,400	7,250

LEHMANN MACHINE CO., ST. LOUIS, MO.

[Prices f. o. b. St. Louis, Mo., crated. Includes automatic pump lubrication to carriage, cross slide (and taper attachment when furnished)]

Size of lathe.....	16"	18"	20" Ltd. Pat.	20" Hy. Pat.	22"	24"	24" Ex. Hy.	27"	30"	36"
Base center distance.....	30"	30"	30"	48"	48"	48"	60"	60"	60"	60"
Base bed length.....	7'	7'	7'	9'	9'	9'	12'	12'	12'	12'
Actual swing.....	18½"	20½"	22½"	22½"	24½"	27½"	27½"	30½"	34½"	37½"
Cone drive, double back geared, hardened spindle and double spindle nose.....	\$2,425	\$2,600	\$2,600	-----	\$4,040	\$4,330	-----	-----	-----	-----
Weight, base length, crated, pounds.....	3,150	3,350	3,600	-----	7,000	7,300	-----	-----	-----	-----
Sixteen speed geared head, arranged for motor drive (not including motor):	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Timken spindle bearings.....	\$3,440	\$3,700	\$3,850	\$5,420	\$5,620	\$5,920	-----	-----	-----	-----
Sleeve type spindle bearings.....	4,350	4,600	4,800	8,300	8,400	8,800	-----	-----	-----	-----
Weight, base length, crated, pounds.....	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Sixteen speed hydratrol, arranged for motor drive (not including motor):	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Timken spindle bearings.....	\$4,005	\$4,270	-----	\$5,775	\$6,005	\$6,350	\$9,470	\$9,760	\$10,050	\$10,740
Sleeve type spindle bearings.....	\$4,120	\$4,380	-----	\$5,900	\$6,130	\$6,480	\$9,700	\$9,990	\$10,300	\$11,000
Weight base length, crated, pounds.....	4,600	4,900	-----	8,250	8,600	8,900	17,400	17,800	18,200	19,400
7½" hollow spindle.....	-----	\$5,400	-----	-----	-----	-----	-----	-----	-----	-----
11" hollow spindle.....	-----	-----	-----	-----	-----	\$8,100	-----	\$11,400	\$11,850	\$12,375
12" hollow spindle.....	-----	-----	-----	-----	-----	\$8,300	-----	\$11,750	\$12,000	\$12,500
13" hollow spindle.....	-----	-----	-----	-----	-----	-----	-----	12,100	12,550	13,000
14" hollow spindle.....	-----	-----	-----	-----	-----	-----	-----	-----	13,900	14,400
16" hollow spindle.....	-----	-----	-----	-----	-----	-----	-----	-----	14,400	14,900
Weight, base length, crated, pounds.....	-----	5,200	-----	-----	-----	11,000	-----	19,000	19,400	19,700
Bed, each additional 24" between centers.....	\$145	\$150	\$150	\$190	\$200	\$200	\$320	\$325	\$340	\$340
Weight, extra 2 feet of bed, pounds.....	350	350	350	600	600	600	1,000	1,000	1,000	1,000

LELAND GIFFORD CO., WORCESTER, MASS.

DRILLING MACHINES

BELTED SPINDLE

Model and size	1-spindle		2-spindle		3-spindle		4-spindle		5-spindle		6-spindle	
	Weight	Price	Weight	Price	Weight	Price	Weight	Price	Weight	Price	Weight	Price
No. 1:	Lbs.		Lbs.		Lbs.		Lbs.		Lbs.		Lbs.	
12" bench.....	165	\$290	275	\$525	400	\$760	525	\$980	-----	-----	650	\$1,435
12" floor.....	300	345	450	605	600	965	740	1,120	-----	-----	1,000	1,650
No. 2:												
14".....	790	455	1,280	745	1,350	1,065	1,800	1,385	2,300	\$1,705	2,900	2,040
20".....	895	485	1,385	810	1,500	1,145	2,000	1,490	2,500	1,720	3,100	2,165
26".....	1,055	530	1,630	890	1,700	1,265	2,200	1,650	2,700	2,025	3,300	2,400
No. 3: 24".....	1,800	805	3,200	1,445	4,600	2,080	6,000	2,720	-----	-----	-----	-----

LELAND GIFFORD CO., WORCESTER, MASS.—Continued

DRILLING MACHINES—Continued

MOTOR SPINDLE

[Prices include built-in light]

Swing and type	1-spindle		2-spindle		3-spindle		4-spindle		5-spindle		6-spindle	
	Weight	Price	Weight	Price	Weight	Price	Weight	Price	Weight	Price	Weight	Price
No. 1, L. M. S.—2 speeds from 60 c.:	Lbs.		Lbs.		Lbs.		Lbs.		Lbs.		Lbs.	
12" bench.....	525	\$440	-----	-----	805	-----	\$1,190	1,900	\$1,545	-----	-----	-----
12" floor.....	750	510	1,300	930	1,600	1,345	2,270	1,745	2,525	\$2,165	2,900	\$2,590
20" bench.....	-----	480	-----	885	-----	1,310	-----	1,705	-----	-----	-----	-----
20" floor.....	980	550	1,590	1,010	1,925	1,465	2,620	1,905	3,000	2,370	3,600	2,840
No. 1, L. M. S.—4 speeds from 60 c.:												
12" bench.....	525	470	-----	865	-----	1,275	1,900	1,670	-----	-----	-----	-----
12" floor.....	750	540	1,300	985	1,600	1,430	2,270	1,860	2,525	2,310	2,900	2,770
20" bench.....	-----	510	-----	945	-----	1,395	-----	1,820	-----	-----	-----	-----
20" floor.....	980	580	1,590	1,065	1,925	1,550	2,620	2,020	3,000	2,515	3,600	3,020
No. 2, L. M. S.:												
14".....	1,100	700	1,900	1,240	2,850	1,785	3,980	2,330	5,050	2,875	6,050	3,425
20".....	1,460	735	2,280	1,295	3,200	1,865	4,230	2,425	5,350	2,990	6,220	3,555
26".....	1,650	775	2,500	1,375	3,450	1,990	4,500	2,595	5,600	3,210	6,660	3,820
M. D. coolant.....	-----	125	-----	135	-----	145	-----	155	-----	165	-----	175

NO. 3 MOTOR SPINDLE

Number of spindles	Weight	Price	
		Plain machine	M. D. coolant
1.....	Pounds		
2.....	1,800	\$1,225	\$125
3.....	3,200	2,240	135
4.....	4,600	3,280	145
5.....	6,000	4,300	155

THE LEWIS MACHINE CO., CLEVELAND, OHIO
LEWIS AUTOMATIC WIRE STRAIGHTENING AND CUTTING MACHINES—SPECIFICATION SHEET

Model	Capacity	Length	Price less electrical equipment	Price with electrical equipment (X)	Extra for length per foot	Roll straightener	Feed transmission	Feed and reverse transmission	Motor size	Wire feed per minute with all extra equipment
No. 7	1/4"	1'	\$215.00	X \$202.50	\$22.00				14 hp., 345 r. p. m.	50'
1-C	1/4"	2'	685.00	X 667.00	33.00				1 1/2 hp., 1,800 r. p. m.	115'
2-C	1/4"	3'	798.00	X 787.00	33.50				2 hp., 1,800 r. p. m.	100'
3-C	1/4"	4'	1,030.00	X 1,022.00	33.50				3 hp., 1,800 r. p. m.	130'
4-C	1/4"	5'	1,205.00	X 1,207.00	33.50				5 hp., 1,800 r. p. m.	100'
5-C	1/4"	6'	1,075.00	X 1,066.00	44.00				5 hp., 1,800 r. p. m.	95'-120'
6-C	1/4"	7'	1,503.00	X 1,494.00	50.00				10 hp., 1,800 r. p. m.	95'-195'
7-C	1/4"	8'	2,085.00	X 2,076.00	55.00				20 hp., 1,800 r. p. m.	95'-195'
8-C	1/4"	9'	2,365.00	X 2,356.00	60.00				30 hp., 1,800 r. p. m.	95'-195'
9-C	1/4"	10'	4,240.00	X 4,231.00	66.00				40 hp., 1,200 r. p. m.	95'-195'
10-C	1/4"	11'	5,401.00	X 5,392.00	110.00				50 hp., 1,200 r. p. m.	90'-165'
11-C	1/4"	12'	8,090.00	X 8,081.00	49.50				5 hp., 1,800 r. p. m.	95'-195'
12-C	1/4"	13'	2,805.00	X 2,796.00	60.00				15 hp., 1,800 r. p. m.	95'-195'
13-C	1/4"	14'	3,828.00	X 3,819.00	88.00				25 hp., 1,200 r. p. m.	95'-195'
14-C	1/4"	15'	4,774.00	X 4,765.00	88.00				30 hp., 1,800 r. p. m.	95'-195'
15-C	1/4"	16'	6,050.00	X 6,041.00	99.00				40 hp., 1,200 r. p. m.	90'-165'
16-C	1/4"	17'	8,393.00	X 8,384.00	110.00				50 hp., 1,200 r. p. m.	75'-115'
17-C	1/4"	18'	12,100.00	X 12,091.00	49.50				3 hp., 1,200 r. p. m.	120'
18-C	1/4"	19'	1,842.50	X 1,833.50	49.50				10 hp., 1,200 r. p. m.	120'
19-C	1/4"	20'	9,780.00	X 9,771.00	99.00				30 hp., 1,200 r. p. m.	115'

¹ Flywheel transmission only.

NOTE.—Asterisk (*) indicates that the item is included in the original price of the machine.

Above prices (X) on machines with electrical equipment cover 220- and 440-volt, 3-phase, 60-cycle current—unless marked (Z) which are for 440-volt only.

LIBERTY MACHINE COMPANY, GREEN BAY, WIS.

SHEARING

Model	Capacity	Throat depth	Approximate shipping weight	Hand control	Foot control
	Gage	Inches	Pounds		
1430	14	30	850	\$340	(¹)
1236	12	36	1,240	(¹)	\$475
1036	10	36	1,610	625	665
1400	14	60	1,450	725	690
1200	12	60	1,810	950	795
1060	10	60	2,460		1,025

¹ Not furnished.

LIBERTY PLANERS, INC., HAMILTON, OHIO

STANDARD DOUBLE HOUSING PLANERS

Size	22 x 22	24 x 24	30 x 30	36 x 36	42 x 42	48 x 48
Length of stroke.....feet.....	4	6	8	8	10	10
Price with one head arranged for reversing motor drive.....	\$4,000	\$4,500	\$6,250	\$9,450	\$10,850	\$12,100
Price extra foot.....	170	200	300	310	350	400
Extra rail head.....		800	850	890	890	950
Right-hand side head.....		1,050	1,200	1,360	1,360	1,700
Left-hand side head.....		1,100	1,250	1,460	1,460	1,800
Single speed countershaft.....	300	300	350	450	460	500
Overhead motor drive.....	400	400	500	700	700	750
Weight in pounds						
Weight with 1 head reversing motor drive.....	5,000	9,000	13,000	20,000	24,000	32,000
Weight extra foot.....	450	550	800	1,000	1,200	1,300
Weight extra rail head.....		325	350	600	600	700
Weight right-hand side head.....		480	670	1,200	1,200	1,400
Weight left-hand side head.....		550	780	1,200	1,200	1,400
Weight single speed countershaft.....	395	465	490	600	650	740
Weight overhead motor drive.....	850	1,150	1,300	1,850	1,925	2,025

STANDARD OPENSIDE PLANERS

Size	22 x 22	24 x 24	30 x 30	36 x 36	42 x 42	48 x 48
Length of stroke.....feet.....	6	8	8	10	10	10
Price with one head arranged for reversing motor drive.....	\$6,200	\$8,000	\$11,200	\$12,480	\$14,700	\$14,700
Price extra foot.....	200	300	310	350	400	400
Extra rail head.....	800	850	890	890	950	950
Side head.....	1,050	1,200	1,360	1,360	1,700	1,700
Single speed countershaft.....	300	350	450	460	500	500
Overhead motor drive.....	400	400	700	700	750	750
Weight in pounds						
Weight with 1 head reversing motor drive.....	12,000	20,000	24,000	31,000	38,000	38,000
Weight extra foot.....	550	800	1,000	1,200	1,300	1,300
Weight extra rail head.....	325	350	600	600	700	700
Weight side head.....	480	670	1,200	1,200	1,400	1,400
Weight single speed countershaft.....	405	490	600	650	740	740
Weight overhead motor drive.....	1,150	1,300	1,850	1,925	2,025	2,025

LIBERTY PLANERS, INC., HAMILTON, OHIO—Continued

NEW DESIGN DOUBLE HOUSING PLANERS

Size.....	36 x 36	42 x 42	48 x 48	54 x 54	60 x 60	72 x 72
Length of stroke.....feet.....	8	10	10	10	12	12
Price with 1 head arranged for reversing motor drive.....	\$11,132	\$12,790	\$14,245	\$15,800	\$19,500	\$24,800
Price extra foot.....	310	350	400	430	510	600
Extra rail head.....	1,050	1,050	1,100	1,100	1,550	1,550
Right-hand side head.....	1,600	1,600	2,000	2,000	3,000	3,000
Left-hand side head.....	1,600	1,600	2,000	2,000	3,000	3,000
Single speed countershaft.....	400	420	460	500	600	600
Overhead motor drive.....	700	750	800	900	900	900
Weight in pounds						
Weight with 1 head reversing motor drive.....	30,000	42,000	50,000	61,000	77,000	85,000
Weight extra foot.....	1,300	1,600	1,900	2,000	2,600	3,000
Weight extra rail head.....	800	800	1,000	1,000	1,700	1,700
Weight right-hand side head.....	2,000	2,000	2,400	2,400	3,300	3,400
Weight left-hand side head.....	2,000	2,000	2,400	2,400	3,300	3,400
Weight single speed countershaft.....	660	695	780	795	900	900
Weight overhead motor drive.....	1,850	1,925	2,025	2,120	2,120	2,120

NEW DESIGN OPENSIDE PLANERS

	36 x 36	42 x 42	48 x 48	54 x 54	60 x 60	72 x 72
Price with 1 head arranged for reversing motor drive.....	\$13,200	\$14,685	\$17,325	\$19,800	\$23,870	\$29,020
Price extra foot.....	310	350	400	430	510	600
Extra rail head.....	1,050	1,050	1,100	1,100	1,550	1,550
Side head.....	2,000	2,000	2,300	2,300	3,100	3,100
Single speed countershaft.....	400	420	460	500	600	600
Overhead motor drive.....	700	750	800	900	900	900
Weight in pounds						
Weight with 1 head reversing motor drive.....	40,000	50,500	61,000	70,000	86,000	95,000
Weight extra foot.....	1,300	1,600	1,900	2,000	2,600	3,000
Weight extra rail head.....	800	800	1,000	1,000	1,700	1,700
Weight side head.....	2,100	2,100	2,500	2,500	3,575	3,575
Weight single speed countershaft.....	660	695	780	795	900	900
Weight overhead motor drive.....	1,850	1,925	2,025	2,100	2,120	2,120

LINLEY BROTHERS COMPANY, BRIDGEPORT, CONN.

Description	Riveting	Price
No. 10C.....	$\frac{3}{4}$ " capacity, floor type, countershaft drive, with countershaft.....	\$105.00
No. 10D.....	$\frac{3}{4}$ " capacity, floor type, horizontal motor drive with motor.....	120.00
No. 10D.....	$\frac{3}{4}$ " capacity, floor type, horizontal motor drive without motor but with motor base.....	105.00
No. 10E.....	$\frac{3}{4}$ " capacity, floor type, direct connected vertical motor drive with motor.....	125.00
Prices on above motor driven machines are for $\frac{1}{4}$ horsepower, 110-volt, alternating-current, 50- or 60-cycles, single-phase motors.		
For series 10 machines equipped with $\frac{1}{4}$ horsepower, 220-volt, alternating-current, 50- or 60-cycles, 3-phase motors, add to above motor machine prices.....		12.50
No. 29D.....	$\frac{1}{4}$ " capacity, floor type horizontal motor drive, $\frac{1}{4}$ horsepower, 110-, 220- or 440-volt, alternating-current, 50- or 60-cycle, single or 3-phase motor.....	235.00
No. 29D.....	$\frac{1}{4}$ " capacity, floor type, horizontal motor drive without motor but with motor base.....	200.00
No. 29E.....	$\frac{1}{4}$ " capacity, floor type, direct connected vertical motor drive, $\frac{1}{4}$ horsepower, 110-, 220- or 440-volt, alternating-current, 50- or 60-cycle, single or 3-phase motor.....	240.00
No. 30.....	$\frac{3}{4}$ " capacity, floor type, countershaft drive, with countershaft.....	200.00
No. 30D.....	$\frac{3}{4}$ " capacity, floor type, horizontal motor drive, 1 horsepower, 220- or 440-volt, alternating-current, 60 cycle, 3-phase motor.....	250.00
No. 30D.....	$\frac{3}{4}$ " capacity, floor type, horizontal motor drive without motor, but with motor base.....	200.00
No. 30E.....	$\frac{3}{4}$ " capacity, floor type, direct connected vertical motor drive, 1 horsepower, 220- or 440-volt, alternating-current, 60 cycle, 3-phase motor.....	260.00
Jig boring machine, bench model, $5\frac{1}{2}$ " x 15" table size.....		695.00
Jig boring machine, floor model, $5\frac{1}{2}$ " x 15" table size.....		735.00
Vertical milling machine, floor model, 5" x 14" table size.....		1,055.00
Vertical milling machine, floor model, 8" x 20" table size.....		1,425.00
Riveting machine, floor model, $\frac{1}{2}$ " capacity, 2 spindles.....		285.00
Also round collets for milling and jig boring machine in $\frac{1}{4}$ " to $\frac{3}{4}$ " capacity...each.....		4.25

W. C. LIPE, INC., SYRACUSE, N. Y.

Model	Approximate weight	Base price
Pounds		
9" production lathe.....	1,200	\$850
9" production lathe (high speed).....	1,200	990
Mechanical carbo (low speed).....	3,000	1,805
Mechanical carbo (high gear).....	3,000	1,840
Hydraulic carbo.....	4,500	3,235
Hydraulic carbo with backfacing attachment.....	4,500	3,610
Carbo-matic (low geared).....	7,500	4,100
Carbo-matic (high geared).....	7,500	4,145

LIPPMANN ENGINEERING WORKS, MILWAUKEE, WIS.

DIRECT CONNECTED—ALTERNATING CURRENT, 60 CYCLES, 2- OR 3-PHASE, 220 OR 440 VOLTS ONLY	DIRECT CONNECTED—DIRECT CURRENT, 230 VOLTS ONLY
No. 108 floor type 1 horsepower, 12 x 2".....	No. 116 3 horsepower, 12 x 2"--- \$380
No. 109 floor type 1 horsepower, 12 x 2".....	No. 126 3 horsepower, 14 x 2"--- 390
Prices include motor, starter, and style N guards.	Prices include motor, starter having overload and under-voltage protection, and style N guards.

DIRECT CONNECTED—ALTERNATING CURRENT, 2- OR 3-PHASE, 220 OR 440 VOLTS, EITHER 25 OR 60 CYCLES

	60 cycles	25 cycles
No. 110, 2 hp., 12 x 2".....	\$260	---
No. 111, 3 hp., 12 x 2".....	275	---
No. 120, 2 hp., 14 x 2".....	270	\$310
No. 121, 3 hp., 14 x 2".....	285	340
No. 123, 5 hp., 14 x 2".....	350	---

Prices include motor, starter having overload and under-voltage protection, and style N guards.

DIRECT CONNECTED—ALTERNATING CURRENT, 2- OR 3-PHASE, 220 OR 440 VOLTS, EITHER 25 OR 60 CYCLES

	60 cycles	25 cycles
124, 5 hp., 14 x 3".....	\$435	---
131, 5 hp., 18 x 3".....	450	5 hp., 16 x 3"--- \$500
131C, 5 hp., 20 x 3".....	460	---
132, $7\frac{1}{2}$ hp., 18 x 3".....	580	$7\frac{1}{2}$ hp., 16 x 3"--- 680
132C, $7\frac{1}{2}$ hp., 20 x 3".....	590	---
141, 5 hp., 24 x 4".....	600	---
142, $7\frac{1}{2}$ hp., 24 x 4".....	670	---

Prices include motor, starter having overload and under-voltage protection, and style N guards.

LIPPMANN ENGINEERING WORKS, MILWAUKEE, WIS.—Continued

RW TYPE—DIRECT CURRENT, CONSTANT SPEED, 230 VOLTS, OPERATING UP TO 6,500 FEET SURFACE SPEED

No. 15 RW, 3 horsepower, 11" or 12" x 3"	\$545	No. 67 RW, 7½ horsepower, 21" x 3"	\$750
No. 16 RW, 4½ horsepower, 11" or 12" x 3"	620	No. 75 RW, 5 horsepower, 24" x 4"	720
No. 25 RW, 3 horsepower, 14" x 3"	545	No. 76 RW, 5 horsepower, 24" x 4"	830
No. 26 RW, 4½ horsepower, 14" x 3"	620	No. 77 RW, 7½ horsepower, 24" x 4"	945
No. 35 RW, 3 horsepower, 16" x 3"	560	No. 78 RW, 10 horsepower, 24" x 4"	1,040
No. 36 RW, 5 horsepower, 16" x 3"	635	No. 87 RW, 7½ horsepower, 27" x 4"	1,015
No. 37 RW, 7½ horsepower, 16" x 3"	685	No. 88 RW, 10 horsepower, 27" x 4"	1,110
No. 46 RW, 5 horsepower, 18" x 3"	635	No. 89 RW, 15 horsepower, 27" x 4"	1,205
No. 47 RW, 7½ horsepower, 18" x 3"	685	No. 97 RW, 7½ horsepower, 30" x 4"	1,055
No. 56 RW, 5 horsepower, 20" x 3"	650	No. 98 RW, 10 horsepower, 30" x 4"	1,110
No. 57 RW, 7½ horsepower, 20" x 3"	690	No. 99 RW, 15 horsepower, 30" x 4"	1,205
No. 66 RW, 5 horsepower, 21" x 3"	650		

Prices include motor and style G guards, also belt on machines smaller than 24" and texrope on machines 24" and larger; but no starter or field failure relay. If machines smaller than 24" are wanted with texrope drive instead of belt drive, add the following extras: 3 horsepower \$15, 5 horsepower \$20, and 7½ horsepower \$25. Extra for push button, automatic starter having overload and under-voltage protection, and field-failure relay: 3 horsepower \$112, 5 horsepower \$112, 7½ horsepower \$112, 10 horsepower \$130, and 15 horsepower \$160.

If arbors are wanted smaller in diameter than standards listed, add \$5 per machine.

If standard arbors listed are smaller than holes in customer's wheels, we will furnish steel bushings to go on the arbor without extra charge.

Machines arranged to take safety shape wheels or straight side wheels wider than listed require longer spindle and wider guards for which there is an extra charge of \$15 per machine. This extra, however, does not include safety shaped flanges.

Above prices do not include abrasive wheels.

RW TYPE—DIRECT CURRENT WITH SPEED CONTROLLER, 230 VOLTS ONLY OPERATING UP TO 6,500 FEET SURFACE SPEED

No. 36 RW, 5 horsepower, 16" x 3"	\$985	No. 57 RW, 7½ horsepower, 20" x 3"	\$1,045
No. 37 RW, 7½ horsepower, 16" x 3"	1,035	No. 75 RW, 5 horsepower, 24" x 4"	1,010
No. 46 RW, 5 horsepower, 18" x 3"	985	No. 76 RW, 5 horsepower, 24" x 4"	1,160
No. 47 RW, 7½ horsepower, 18" x 3"	1,035	No. 77 RW, 7½ horsepower, 24" x 4"	1,210
No. 56 RW, 5 horsepower, 20" x 3"	995	No. 78 RW, 10 horsepower, 24" x 4"	1,275

Prices include motor, automatic starter having overload and under-voltage protection, field-failure relay, speed controller, texrope drive, and style F guards.

LIPPMANN ENGINEERING WORKS, MILWAUKEE, WIS.—Continued

RW TYPE—ALTERNATING CURRENT, SINGLE- OR TWO-SPEED MACHINES 2- OR 3-PHASE, 220 OR 440 VOLTS, EITHER 25 OR 60 CYCLES. OPERATING UP TO 6,500 FEET SURFACE SPEED

Prices cover single-speed machines. For prices two-speed machines, see extra below.

	60 cycles	25 cycles
No. 10 RW, 3 horsepower, 11" or 12" x 3"	\$495	\$539
No. 11 RW, 5 horsepower, 11" or 12" x 3"	510	570
No. 20 RW, 3 horsepower, 14" x 3"	495	539
No. 21 RW, 5 horsepower, 14" x 3"	510	570
No. 30 RW, 3 horsepower, 16" x 3"	510	554
No. 31 RW, 5 horsepower, 16" x 3"	525	585
No. 32 RW, 7½ horsepower, 16" x 3"	545	639
No. 41 RW, 5 horsepower, 18" x 3"	525	585
No. 42 RW, 7½ horsepower, 18" x 3"	545	639
No. 51 RW, 5 horsepower, 20" x 3"	535	595
No. 52 RW, 7½ horsepower, 20" x 3"	560	720
No. 61 RW, 5 horsepower, 21" x 3"	540	600
No. 62 RW, 7½ horsepower, 21" x 3"	565	659
No. 70 RW, 5 horsepower, 24" x 3"	575	745
No. 71 RW, 5 horsepower, 24" x 4"	685	
No. 71½ RW, 7½ horsepower, 24" x 3"	600	799
No. 72 RW, 7½ horsepower, 24" x 4"	705	833
No. 73 RW, 10 horsepower, 24" x 4"	735	869
No. 82 RW, 7½ horsepower, 27" x 4"	775	898
No. 83 RW, 10 horsepower, 27" x 4"	800	974
No. 84 RW, 15 horsepower, 27" x 4"	820	974
No. 92 RW, 7½ horsepower, 30" x 4"	775	869
No. 93 RW, 10 horsepower, 30" x 4"	800	873
No. 94 RW, 15 horsepower, 30" x 4"	825	979

Prices include motor belt, and style G guards but no starter. Numbers 10, 11, 20, 21, 30, 31, 41, 51, 61, 70, and 71 RW machines can be furnished with General Electric Co.'s magnetic starter having overload and under-voltage protection for \$18 per machine. This includes the mounting of the push button.

Nos. 32, 42, 52, 62, 71½, 72, 73, 82, 83, 84, 92, 93, and 94 RW machines can be furnished with General Electric Co.'s magnetic starter having overload and under-voltage protection for \$32 per machine. This includes the mounting of the push button.

Extra for texrope drive on any of the above machines: 3 horsepower \$15, 5 horsepower \$20, 7½ horsepower \$25, 10 horsepower \$30, and 15 horsepower \$35.

Two-step cones with texrope drive giving approximately 20% variation in speed can be furnished at the following extras: 3 horsepower \$55, 5 horsepower \$60, 7½ horsepower \$75, 10 horsepower \$80, and 15 horsepower \$85. (Not to be added to the single speed texrope drive.)

If arbors are wanted smaller in diameter than standards listed, add \$5 per machine.

Machines arranged to take safety shaped wheels or straight side wheels that are wider than those listed require a longer spindle and wider guards, for which there is an extra charge of \$15 per machine.

If arbors are smaller than holes in customer's wheels, we will furnish steel bushings to go on the arbor without extra charge.

Above prices do not include abrasive wheels.

HS—DIRECT CURRENT, SINGLE SPEED MACHINES, 230 VOLTS ONLY, FOR OPERATING UP TO 9,500 FEET SURFACE SPEED

No. 27 HS, 7½ horsepower 14" x 3"	\$695
No. 48 HS, 10 horsepower 18" x 3"	900
No. 68 HS, 10 horsepower 21" x 3"	915
No. 78 HS, 10 horsepower 24" x 3"	995
No. 79 HS, 15 horsepower 24" x 3"	1,060
No. 88 HS, 10 horsepower 27" x 3"	1,060
No. 98 HS, 10 horsepower 30" x 3"	1,315
No. 99 HS, 15 horsepower 30" x 3"	1,380
No. 128 HS, 10 horsepower 36" x 3"	1,395
No. 129 HS, 15 horsepower 36" x 3"	1,460

Prices include motor, texrope drive, and style G guards, but no starter.

Add for push button type enclosed starter (not mounted) having overload and under-voltage protection and field-failure relay: 7½ horsepower \$112, 10 horsepower \$130, and 15 horsepower \$160.

LIPPMANN ENGINEERING WORKS, MILWAUKEE, WIS.—Continued

HS TYPE—ALTERNATING CURRENT, 2- OR 3-PHASE, EITHER 25 OR 60 CYCLES, OPERATING UP TO 9,500 FEET SURFACE SPEED

	60 cycles	25 cycles
No. 22 HS, 7½ horsepower 14" x 3".....	\$505	\$600
No. 43 HS, 10 horsepower 18" x 3".....	695	795
No. 63 HS, 10 horsepower 21" x 3".....	715	810
No. 64 HS, 15 horsepower 21" x 3".....	735	890
No. 73 HS, 10 horsepower 24" x 3".....	820	920
No. 74 HS, 15 horsepower 24" x 3".....	845	1,000
No. 83 HS, 10 horsepower 27" x 3".....	890	985
No. 84 HS, 15 horsepower 27" x 3".....	910	1,065
No. 93 HS, 10 horsepower 30" x 3".....	1,145	1,240
No. 94 HS, 15 horsepower 30" x 3".....	1,165	1,320
No. 123 HS, 10 horsepower 36" x 3".....	1,220	1,320
No. 124 HS, 15 horsepower 36" x 3".....	1,245	1,400

Prices include motor and style G guards but no starter.

Add \$32 for magnetic starter having overload and under-voltage protection, enclosed, for separate mounting and push button mounted on the machine.

One-speed machines for wheels 24" and larger have texrope drive, and machines smaller have belt drive. Machines smaller than 24", when wanted with texrope drive, take the following extras: 7½ horsepower \$25, 10 horsepower \$30, and 15 horsepower \$35.

Two-speed machines requires texrope drive on all sizes, and take the following extras: 7½ horsepower \$75, 10 horsepower \$80, and 15 horsepower \$85. (Not to be added to single-speed texrope drive.)

Above machines arranged to take safety shaped wheels or straight side wheels that are wider than those listed require longer spindle and wider guards, for which there is an extra charge of \$15 per machine.

Prices do not include abrasive wheels.

WATER TOOL GRINDER—BELT AND MOTOR DRIVEN

Belt driven for 20" x 1½" x 10" wheel with countershaft, abrasive wheel but without dressing attachment.....	\$245
Motor driven for 20" x 1½" x 10" wheel with 2 horsepower direct current 230-volt ball-bearing motor, abrasive wheel, belt, belt guard, and push-button starter with overload and under-voltage protection, but without dressing attachment.....	470
Motor driven for 20" x 1½" x 10" wheel with 2 horsepower ball-bearing alternating current motor for 60 cycles, 2- or 3-phase, 220 or 440 volts, abrasive wheel, belt, belt guard, starter having overload and under-voltage protection and push button.....	400
Extra for dressing attachment.....	35
Extra for arranging any of the above with wheel 20" x 3" x 10".....	20

BB TYPE—BELT DRIVEN FOR OPERATING WHEELS AT EITHER 6,500 OR 9,500 FEET SURFACE SPEED

	6 BB		7 BB	8 BB
	16" or 18" x 3"	20" x 3"	24" x 4"	30" x 4"
Price with countershaft and guards.....	\$360	\$370	\$425	\$630
Price of countershaft only.....	75	75	85	95
Price of style G guards, see below.				

If arbors are wanted smaller in diameter than standards listed, add \$5 per machine.

If arbors are smaller than holes in customer's wheels, we will furnish steel bushings to go on the arbor, without extra charge.

Machines arranged to take safety shaped wheels or straight side wheels that are wider than those listed require longer spindle and wider guards, for which there is an extra charge of \$15 per machine. Taper flanges extra, see below.

LIPPMANN ENGINEERING WORKS, MILWAUKEE, WIS.—Continued

TUNGSTEN CARBIDE GRINDER

No. 107, 1 Hp. 12" x 3":
60-cycles, 3-phase, alternating current.....
230-volts, direct current.....

\$490
700

Prices include motor, reversing starter, diamond dressing attachment without the diamond, one bevel protractor, and two cup wheels.

TYPE "C"—HIGH SPEED GRINDER

15 hp., 60-cycles, 3-phase current:
24".....
30".....

\$1,475
1,680

Prices include motor, starter, and style G guards.

Unless otherwise stated, the above prices do not include abrasive wheels.

CAST IRON FLANGES FOR STRAIGHT SIDE WHEELS

Diameter of flanges.....	6"	8"	10"	12"	14"	16"	18"	20"	24"
Price.....	\$10	\$12	\$15	\$27	\$52	\$75	\$90	\$120	\$170

This price includes a set of 2 tight and 2 loose flanges, and may be used as an addition or deduction.

ADAPTERS

[Per pair]

Diameter.....	8"	10"	12"	14"	16"	18"	20"
Price.....	\$18	\$24	\$30	\$36	\$48	\$60	\$72

Example: Customer wants a No. 78 HS machine with 10-inch flanges and 12-inch adapters. Standard machine has flanges 12-inch diameter, so deduct price of 12-inch flanges (\$27); then 10-inch flanges are not listed so take price of 20-inch (\$120) and add to price of machine, making \$1,088. Then add the price of 1 pair 12-inch adapters (\$30) making the total price \$1,118 without starter.

STYLE G GUARDS

[Per pair]

Size of wheels.....	14"	16"	18"	20"	24"	30"	36"
Price.....	\$60	\$75	\$75	\$85	\$100	\$170	\$200

GLASS EYE SHIELDS

[Per pair]

For 12- or 14-inch wheels, \$10.
For 16-, 18-, or 20-inch wheels, \$12.
For 24- and 30-inch wheels, \$14.

STEEL SAFETY FLANGES

Diameter of flange	Price, per pair	Diameter of flange	Price, per pair
8".....	\$3.50	16".....	\$25.00
10".....	11.00	18".....	32.00
12".....	14.50	20".....	45.00
14".....	20.00		

Orders should specify diameter of hole and whether ¼- or ⅜-inch taper per foot is wanted.

LITTLE GIANT, INC., MANKATO, MINN.

LITTLE GIANT POWER HAMMERS

[Price list—net—f. o. b. Mankato, Minn.]

Size of ram	25 pounds	50 pounds	100 pounds	250 pounds	500 pounds
Belt driven.....	\$150	\$225	\$450	\$1,000	\$1,750
Motor driven with motor base and pulley, without motor.....	175	265	500	1,085	1,850
With 60 cycle 2- or 3-phase motor (state voltage).....	215	320	560	1,205	2,035
With 110- or 220-volt, 60 cycle, single phase.....	220	340	595	1,250	2,100
Heavy endless drive belt extra.....	7	9	12	15	25
Wire belt guard for motor-driven hammer.....	25	30	35	50	60
Enclosed safety switch.....	5	6	8	140	150

¹ Remote-control magnetic switch, with overload and under-voltage protection. If hand compensator is desired, ask for price.

Note that belts and switches are quoted separately.

LOBDELL CAR WHEEL CO., WILMINGTON, DEL.

DILL SLOTTERS

	10 inches	12 inches	15 inches	18 inches	20 inches	24 inches
Standard head arranged for M. D., no motor:						
Price.....	\$5,500	\$6,000	\$7,000	\$7,500	\$11,500	\$12,000
Weight..... pounds.....	5,750	6,000	11,000	11,500	25,000	26,000
Universal head arranged for M. D., no motor:						
Price.....	6,750	6,000	8,500	11,500	13,500	26,000
Weight..... pounds.....	6,000	6,000	11,500	11,500	26,000	26,000

NAZEL HAMMERS

	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7
Type B:							
Price.....	\$1,750	\$2,150	\$2,800	\$4,300	\$5,800	\$8,300	\$11,800
Weight..... pounds.....	5,000	7,600	11,000	14,000	21,500	32,500	50,000
Type S:							
Price.....	\$3,900	\$5,500	\$7,000	\$10,000	\$15,500		
Weight..... pounds.....	12,000	15,500	24,000	37,000	72,500		
Type N:							
Price.....	\$5,000	\$6,500	\$9,200				
Weight..... pounds.....	14,000	22,000	33,000				
Type I:							
Price.....	5,500	7,200	10,100				
Weight..... pounds.....	15,000	24,000	36,000				

Above arranged for constant-speed motor drive but without electrical equipment.

THE LOCOMOTIVE FINISHED MATERIAL COMPANY, ATCHISON, KANS.

No. 45 Giddings & Lewis type horizontal boring machine. This machine follows older design G. & L. but has been brought up to date and has a 5-inch spindle, price \$20,000, weight 32,000 pounds. Plus \$600 per machine for tooling up.

LODGE & SHIPLEY MACHINE TOOL CO., CINCINNATI, OHIO

SELECTIVE HEAD ENGINE LATHES

Size	Distance between centers	Approximate shipping weight	Prices	
			Base machine	Additional 24-inch centers
	Inches	Pounds		
12".....	30	4,500	\$2,911	
14".....	30	5,300	3,148	\$113
16".....	30	5,800	3,485	125
18".....	30	7,500	3,739	125
20".....	48	8,500	4,247	145
22".....	48	9,500	5,190	182
24".....	48	13,000	5,550	194
26".....	48	14,000	7,453	254
28".....	60	20,500	7,985	273
30".....	60	21,500	10,115	345
36".....	60		10,647	363

SELECTIVE HEAD TOOL ROOM LATHE

Size	Distance between centers	Hole in spindle	Approximate shipping weight	Base machine	Additional 24-inch centers
	Inches	Inches	Pounds		
14".....	30	12 1/2	4,680	3,563	132
16".....	30	12 1/2	5,480	3,948	145
18".....	30	12 1/2	6,000	4,202	145
20".....	30	12 1/2	7,700	4,887	168
22".....	48	12 1/2	8,700	5,811	207
24".....	48	12 1/2	9,700	6,176	222

OIL COUNTRY LATHE

Size	Distance between centers	Hole in spindle	Approximate shipping weight	Prices	
				Base machine	Additional 24-inch centers
	Inches	Inches	Pounds		
24".....	48	12 1/2	15,500	\$9,238	\$254
27".....	48	12 1/2	16,200	9,770	273
30".....	48	12 1/2	17,000	11,912	345

No. 3A x 15-inch centers duomatic lathe..... \$7,439
 Additional 12-inch between centers..... \$230
 Approximate shipping weight, pounds..... 21,500

THE LUCAS MACHINE TOOL CO., CLEVELAND, OHIO

HORIZONTAL BORING MACHINES

Size	Base weight	Base price	Extra for bed to take 6'	Extra for bed to take 8'	Extra height to take 36"
	Pounds				
No. 41-3" bar.....	13,800	\$9,075	\$190	\$570	\$465
No. 42-4" bar.....	20,075	12,700		440	525-40'

Arranged for constant-speed motor drive without electrical equipment.
 Rotary tables, dial indicators, etc., extra.

Extra for special wide table:
 34-inch width in the 3" bar No. 41 size machine..... \$190
 40" wide in the 4" bar size..... 220

McDONOUGH MANUFACTURING CO., EAU CLAIRE, WIS.
Sterling, Model D, cutter and tool grinder, \$1,100

SPECIFICATIONS

Wheel head: Totally enclosed, $\frac{3}{4}$ horse power, 3,450 revolutions per minute totally enclosed ball-bearing motor with switch, V-belt drive.
 Table dimensions: 5 inch wide, 36 inches long.
 Swing-over table: 10".
 Maximum distance between centers:
 With work head 22".
 With left-hand tail stock 26".
 Longitudinal table travel: 23".
 Cross feed: 8".
 Vertical movement: 8".
 Weight, net: 1,350 pounds.

MACHINERY MANUFACTURING COMPANY, LOS ANGELES, CALIF.

VERNON HIGH SPEED PRECISION VERTICAL MILLING MACHINE AND JIG BORER

Bench model: Completely arranged for motor drive with all necessary belts and pulleys fully enclosed in helmet head, less motor and electrical equipment..... \$725. 00
 Floor model: Mounted on rigid pyramid type pedestal with shelf for holding tools and attachments. Completely arranged for motor drive with all necessary belts and pulleys fully enclosed in helmet head, less motor and electrical equipment..... 800. 00
 Profiling attachment: Two dimensional..... 60. 00
 Profiling attachment: Three dimensional..... 140. 00
 Dial indicators and measuring rods: Consisting of two Starrett dial indicators with jewel bearings, double dial and telltale, with 1-inch range; and seven assorted Starrett measuring rods in lengths from 1-to 4-inch. Standard set with all necessary equipment for holding and attaching same to machine. This attachment will be mounted at factory if purchased with machine, however can be purchased at any time later as machine is arranged to take same..... 125. 00
 Motor: $\frac{1}{2}$ horsepower, 1,750 revolutions per minute, 60-cycle, 110/220-volt, single-phase, or 220/440-volt, three-phase motor..... 26. 50
 Drum reversing switch..... 6. 00

VERNON 11" STROKE PRECISION SHAPER

Floor model with 7-inch swivel vise: Mounted on pedestal with following equipment mounted and assembled: All necessary belts, sliding motor bracket, variable pitch motor pulley, handwheel speed control, countershaft with driver and driven pulleys, completely arranged for motor drive, less motor and electrical equipment..... \$575. 00
 Motor and starting equipment: $\frac{1}{4}$ horsepower, 1,750 revolutions per minute, 60-cycle, 110/220-volt, single-phase, or 220/440-volt, three-phase motor with toggle-type starting switch..... 38. 50

VERNON NO. 6 PLAIN HORIZONTAL MILLING MACHINE

With lever-operated rack-and-pinion feed or hand-screw feed: Mounted on pedestal, completely arranged for motor drive, less motor and electrical equipment. Includes two-step cone motor pulley, motor bracket, fully enclosed variable-speed unit with hand-wheel control mounted on side of pedestal..... \$595. 00
 $\frac{1}{2}$ -inch or 1-inch arbor of heat-treated steel and ground with No. 9 B. & S. taper in shank, including spacing collars, draw-bar and wrench..... 20. 00
 $\frac{1}{4}$ -inch swivel-base vise of nickel-iron..... 25. 00
 Dividing centers..... 45. 00
 Power feed attachment for screw-feed-type machine..... 60. 00
 Universal vertical milling attachment..... 130. 00
 $\frac{1}{4}$ horsepower, 1,750 revolutions per minute, 60-cycle, 100/220-volt, single-phase, or 220/440-volt, three-phase motor, mounted on hinged bracket..... 33. 50
 Drum reversing switch..... 6. 00

MACHINERY MANUFACTURING COMPANY, LOS ANGELES, CALIF.—Con.

VERNON TOOL AND CUTTER GRINDER

Vernon plain tool and cutter grinder: Complete with $\frac{1}{2}$ horsepower, 3,450 revolutions per minute, 220/440-volt, 50/60-cycle, 3-phase motor (quotations on motors other than specified will be furnished on request), including the attachments shown in list A..... \$1, 400. 00

ATTACHMENT LIST A

1. Spindle extension for cup and saucer wheels.
 2. Spring-lever-type tailstock.
 3. Footstock.
 4. Universal work head (not power driven), No. 12 Brown & Sharpe taper on one end, and No. 50 NMTB taper on the other.
 5. Three work head reducer sleeves, No. 12 Brown & Sharpe taper to reduce to Nos. 10, 9, and 7 Brown & Sharpe tapers.
 6. Four grinding wheels, sizes 6" x $\frac{1}{2}$ ", 5-inch saucer, 5-inch cup, and 4-inch cone cup.
 7. Complete set of wrenches.
 8. Universal tooth rest including bracket.
 9. Diamond bracket and diamond holder, less diamond (tailstock mount type).
 10. Plain vise.
- Vernon universal tool and cutter grinder: Equipped for cylindrical and internal grinding, complete with $\frac{1}{2}$ horsepower, 3,450 revolutions per minute, 220/440-volt, 50/60-cycle, 3-phase motor (quotations on motors other than specified will be furnished on request) including the attachments in list "A" and "B"..... \$1, 650. 00

ATTACHMENT LIST B

11. Motor-drive arrangement including motor for universal work head.
12. Internal-grinding attachment with intermediate ball bearing auxiliary drive, and with one each $\frac{1}{8}$ -, $\frac{1}{4}$ -, 1, 1 $\frac{1}{4}$ -, and 1 $\frac{1}{2}$ -inch wheels.
13. No. 50 center for use with universal work head.

Special attachments which can be supplied as extras

ATTACHMENT LIST C

14. Coolant system, complete with $\frac{1}{10}$ horsepower motor and pump, reservoir, and necessary fittings..... \$110. 00
15. Universal grinding wheel dresser..... 45. 00
16. Chuck adapter for work head, No. 50 taper (semifinished)..... 25. 00
17. 4-inch, three-jaw, universal chuck (light pattern) two sets of jaws..... 30. 00
18. Universal vise..... 165. 00
19. 7-inch rotary table..... 125. 00

THE E. J. MANVILLE MACHINE CO., WATERBURY, CONN.

SINGLE-STROKE SOLID-DIE HEADERS

Model of machine	Belt driven without tools	Motorization	Counter-shaft	Steel frame	Model of machine	Belt driven without tools	Motorization	Counter-shaft	Steel frame
130-C....	\$2, 150	\$180	\$65	\$240	500-C....	\$7, 050	\$290	\$135	\$805
188-C....	2, 650	210	75	345	625-C....	9, 850	350	160	935
250-C....	3, 750	220	85	550	750-C....	12, 700	390	170	1, 325
312-C....	4, 700	260	85	610	875-C....	17, 350	440	210	(¹)
375-C....	5, 850	290	120	660					

¹ Included.

DOUBLE-STROKE SOLID-DIE HEADERS

Model of machine	Belt driven without tools	Motorization	Counter-shaft	Steel frame	Model of machine	Belt driven without tools	Motorization	Counter-shaft	Steel frame
130-C....	\$2, 300	\$180	\$65	\$240	375-C....	\$7, 100	\$290	\$135	\$810
188-C....	2, 950	215	75	345	500-C....	9, 200	325	160	935
250-C....	4, 250	230	85	550	625-C....	11, 900	390	170	1, 155
312-C....	5, 200	260	105	660	750-C....	19, 500	440	210	(¹)

¹ Included.

THE E. J. MANVILLE MACHINE CO., WATERBURY, CONN.—Continued

DOUBLE-STROKE SOLID-DIE HEADERS, MODEL E

Size and model	Without tools	Motorization	Counter-shaft	Steel frame	Size and model	Without tools	Motorization	Counter-shaft	Steel frame
1/4"-----	\$2,425	\$170	\$60	\$240	5/16"-----	\$6,075	\$220	\$105	(1)
3/8"-----	2,900	180	75	345	3/8"-----	7,875	280	135	(1)
1/2"-----	4,375	195	85	550	1/2"-----	10,300	330	150	(1)

¹ Included.

TRIPLE-STROKE SOLID-DIE HEADERS

Model of machine	Without tools	Motorization	Counter-shaft	Steel frame	Model of machine	Without tools	Motorization	Counter-shaft	Steel frame
250-C-----	\$5,600	\$275	\$100	\$665	500-C-----	\$13,700	\$300	\$155	\$1,155
312-C-----	7,250	290	130	805	625-C-----	21,225	440	200	(1)
375-C-----	9,825	305	140	935					

¹ Included.

SINGLE-STROKE OPEN-DIE HEADERS

Model of machine	Without tools	Motorization	Counter-shaft	Steel frame	Auto-matic feed throw-out	Model of machine	Without tools	Motorization	Counter-shaft	Steel frame	Auto-matic feed throw-out
130-C-----	\$2,075	\$180	\$65	\$240	\$195	500-C-----	\$6,900	\$325	\$135	\$900	\$295
188-C-----	2,425	205	75	345	210	625-C-----	9,100	360	160	1,210	320
250-C-----	3,350	230	85	530	230	750-C-----	11,350	440	170	1,690	345
312-C-----	4,750	260	100	695	245	875-C-----	18,900	495	210	(1)	410
375-C-----	5,775	290	120	830	260						

¹ Included.

TRIPLE-STROKE OPEN-DIE HEADERS

Model of machine	Without tools	Motorization	Counter-shaft	Steel frame	Model of machine	Without tools	Motorization	Counter-shaft	Steel frame
188-C-----	\$6,975	\$275	\$85	\$695	375-C-----	\$12,850	\$390	\$150	\$1,220
250-C-----	8,375	305	110	780	500-C-----	16,275	440	170	1,565
312-C-----	9,700	330	135	990	625-C-----	26,925	495	210	(1)

¹ Included.

DOUBLE-STROKE OPEN-DIE HEADERS

Model of machine	Without tools	Motorization	Auto-matic feed throw-out	Counter-shaft	Steel frame	Model of machine	Without tools	Motorization	Auto-matic feed throw-out	Counter-shaft	Steel frame
254-C-----	\$5,300	\$230	\$245	\$85	\$695	500-C-----	\$10,150	\$360	\$320	\$150	\$1,210
246-C-----	5,300	230	245	85	695	625-C-----	12,000	415	345	170	1,565
312-C-----	6,385	260	260	110	780	750-C-----	21,550	495	410	210	(1)
375-C-----	7,600	290	295	135	990						

¹ Included.

SINGLE-STROKE SOLID-DIE MODEL C BALL HEADERS

Model of machine	Without tools	Motorization	Counter-shaft	Steel frame	Model of machine	Without tools	Motorization	Counter-shaft	Steel frame
130-C-----	\$2,075	\$180	\$60	\$240	3-D-----	\$5,950	\$305	\$120	\$805
188-C-----	2,575	205	75	345	4-D-----	7,275	330	135	935
250-C-----	3,750	220	85	550	5-D-----	9,825	440	150	1,200
2-D-----	4,600	290	100	660					

THE E. J. MANVILLE MACHINE CO., WATERBURY, CONN.—Continued

SINGLE-STROKE SOLID-DIE BALL HEADERS, MODEL F

Model of machine	Without tools	Motorization	Counter-shaft
188-F-----	\$3,475	\$200	\$75
312-F-----	\$5,125	290	100

SINGLE-STROKE SOLID-DIE FLOW BOLT HEADERS WITH RELIEF MECHANISM

Model of machine	Without tools	Motorization	Counter-shaft	Steel frame
375-C-----	\$6,875	\$320	\$120	\$830
500-C-----	8,675	325	135	935
625-C-----	10,950	335	160	1,155

HIGH-SPEED AUTOMATIC SCREW-SLOTTING MACHINE

Model of machine	Belt driven	Motorization	Counter-shaft
188-C-----	\$1,600	\$85	\$45
1-C-----			
250-C-----	1,775	90	60
2-C-----			
375-C-----	2,650	95	65
3-C-----			

HORIZONTAL RECIPROCATING SCREW-THREAD ROLLING MACHINES

Model of machine	Hand feed	Automatic feed	Standard dies, carbon steel, single face	Motorization	Counter-shaft
130-C-----	\$950	\$1,250	\$15	\$110	\$70
188-C-----	975	1,300	15	195	70
250-C-----	1,450	1,850	18	220	80
375-C-----	1,700	2,350	25	245	100
500-C-----	2,250	3,200	30	245	120
625-C-----	2,550	3,850	40	245	150
750-C-----	3,350	{ 4,150 5,500 }	45	245	170
1000-C-----	4,550	5,850	75	330	195

¹ Semi-automatic.² Full automatic.

HIGH-SPEED AUTOMATIC BOLT-HEAD TRIMMERS

Model of machine	Without tools	Motorization	Counter-shaft
370-D-----	\$3,600	\$220	\$80
375-E-----	4,700	220	80
380-D-----	4,250	220	100
510-D-----	6,250	275	120
520-D-----	7,050	330	120
626-D-----	8,400	330	135
758-D-----	12,700	360	170

DOUBLE- AND SINGLE-STROKE SOLID-DIE CONVERTIBLE HEADERS

Model of machine	Without tools	Motorization	Counter-shaft
130-C-----	\$3,025	\$180	\$65
188-C-----	3,925	215	75
250-C-----	5,725	230	85
312-C-----	6,925	260	105

THE E. J. MANVILLE MACHINE CO., WATERBURY, CONN.—Continued

COMBINATION HEADING AND PINCH-POINTING MACHINE

Without tools	With tools	Motorization	Counter-shaft
\$3,850	\$3,925	\$250	\$85

BULLET SLUG MACHINES

Model of machine	Belt driven without tools	Motorization
188-C	\$2,570	\$210
220-C	3,820	220

MARSHALLTOWN MANUFACTURING CO., MARSHALLTOWN, IOWA

OPEN BACK INCLINABLE PUNCH PRESSES

Number of press	0	1	2	3	4	5	6	6A
Code word	Pamal 5	Panda 10	Papal 14	Parol 22	Pasch 32	Pedat 50	Penal 70	Pepal 70
Slide pressure near bottom of stroke.....tons								
Weight of flywheel press (without stand).....pounds	385	800	1,200	2,200	3,700	5,200	8,700	(1)
Weight of flywheel press (floor type).....do	540				4,300	5,900	10,000	11,500
Price of flywheel press (without stand).....	\$150							
Price of flywheel press (floor type).....	\$165	\$260	\$320	\$410	\$560	\$770	\$1,300	(1)
Price of geared press.....				\$560	\$790	\$990	\$1,550	\$1,665
For construction other than standard the following additions are to be made:								
Longer stroke (more than standard up to maximum).....	(1)	\$6	\$8	\$10	\$20	\$20	\$30	\$30
1-inch addition to frame (No. 5 only).....					\$20	\$20		
2-inch addition to frame (No. 5 only).....					\$30	\$30		
3-inch addition to frame (No. 5 only).....					\$40	\$40		
4-inch addition to frame (No. 5 only).....					\$50	\$50		
Tie rods.....				\$14	\$15	\$16	\$18	\$22
Extra plain bolster.....	\$5	\$8	\$13	\$15	\$20	\$33	\$45	\$45
Convertible back gearing (add to geared price).....					\$50	\$60	\$70	\$70
Intermittent brake.....	(1)	\$10	\$10	\$12	\$15	\$18	\$20	\$20
Flanged slides.....					\$15	\$25	\$40	(2)

INDIVIDUAL MOTOR DRIVE

[Motors for all presses at current list prices. No charge for labor installation]

V-belt drive including bracket, belts, and motor sheave (flywheel not grooved)	(2)	\$25	\$30	\$45	\$55	\$70	\$80	\$80
Motor bracket (idler pulley extra, see below)	(2)	15	20	35	35	45	50	(1)
Idler pulley (required on No. 3, 4, 5, and 6 fly-wheel only)				10	10	15	15	(1)
Direct motor drive with pinion	(1)	75	85	90	95	100	105	(1)

1 Not made.

2 No extra.

3 Standard.

Item:

16-M rotary throatless shear, f. o. b.	\$155
112-M throatless shear arranged for geared motor drive, including motor bracket, but without motor	1,071

MATTISON MACHINE WORKS, ROCKFORD, ILL.

SURFACE GRINDERS

Size	Weight	Price	Size	Weight	Price
	Pounds			Pounds	
12" x 16" x 36"	11,000	\$6,150	20" x 24" x 120"	30,000	\$13,150
12" x 16" x 48"	11,800	6,550	20" x 24" x 144"	32,000	14,750
12" x 16" x 60"	12,600	6,950	20" x 24" x 168"	34,000	16,350
12" x 16" x 72"	13,400	7,350	24" x 24" x 72"	32,000	12,050
14" x 16" x 36"	11,500	6,550	24" x 24" x 96"	34,500	13,450
14" x 16" x 48"	12,300	6,950	24" x 24" x 120"	37,000	15,050
14" x 16" x 60"	13,100	7,350	24" x 24" x 144"	38,500	16,850
14" x 16" x 72"	13,900	7,900	24" x 24" x 168"	40,000	18,650
16" x 24" x 72"	24,500	9,750	30" x 24" x 72"	35,000	14,250
16" x 24" x 96"	26,000	10,750	30" x 24" x 96"	38,500	16,000
16" x 24" x 120"	27,500	11,950	30" x 24" x 120"	42,000	18,000
16" x 24" x 144"	29,000	13,250	30" x 24" x 144"	45,500	20,250
16" x 24" x 168"	30,800	14,550	30" x 24" x 168"	49,000	22,750
18" x 24" x 72"	25,250	10,050	30" x 24" x 192"	53,000	25,500
18" x 24" x 96"	27,000	11,050	36" x 24" x 72"	16,450	
18" x 24" x 120"	28,750	12,350	36" x 24" x 96"	18,550	
18" x 24" x 144"	30,600	13,700	36" x 24" x 120"	20,950	
18" x 24" x 168"	32,500	15,050	36" x 24" x 144"	23,650	
20" x 24" x 72"	26,000	10,550	36" x 24" x 168"	26,850	
20" x 24" x 96"	28,000	11,750	36" x 24" x 192"	29,350	

¹ Equipment will be the same as furnished on 12", 14", 16", 18", 20", 24", 30" machines, only that the hydraulic pump motor will be 10 hp. instead of 7½ hp.

Extra for 30" height between wheel and table.....\$300
Extra for 36" height between wheel and table.....400

CHUCK PRICES FOR ABOVE MACHINES

Either O. S. Walker or Taft-Pierce:

36" x 36" approximate weight 1,800 pounds.....	\$1,500
36" x 48" approximate weight 2,500 pounds.....	1,800
36" x 60".....	2,200

MICHIGAN TOOL CO., DETROIT, MICH.

Model	Name	Capacity	Weight	Price, less motor
			Pounds	
900	Rack type finisher (heavy duty)	1-8" diameter	9,450	\$9,250
854	Rack type finisher (old style)	1-8" diameter	7,550	8,250
859	Duplex	3-8" diameter	8,600	8,250
		1-8" diameter	4,350	3,950
991	Lapping (3 lap)	1½-12" diameter		4,250
993	Lapping (2 lap)	3-20"	7,800	6,950
995	Lapping (2 lap)	½-8" diameter	4,200	3,950
		½-12" diameter		4,250
1127	Standard gear speeder		2,000	5,800
860	Finisher-rotary (oscillation transverse to work axis).	1-8"	5,400	4,800
		1½-12"	5,600	5,600
		3-18"	5,600	7,300
860-B	Finisher-rotary (oscillation parallel to work axis).	1-8"	5,600	4,900
		1½-12"	5,600	5,700
		3-18"	5,600	7,485
		24"		
860-A	Finisher-rotary (both parallel and transverse movement).	36"		
		1-8"		5,300
		1½-12"		6,250
		3-18"		7,900
		24"		
		36"		
		48"		
1712	Relieving machine	12"		9,000
1708	Relieving machine	8"		7,500
1708-A	Relieving machine	8"		6,850

MILLER & CROWNSHIELD, GREENFIELD, MASS.

No. 3 hand milling machine with lever feed table and following standard equipment:

Timken adjustable precision roller bearings on spindle and jackshaft; ½ horsepower standard voltage Westinghouse alternating current motor drive complete with reversing switch, mounted and wired in welded steel pedestal base; 4 single-V interchangeable pulleys in addition to the 3-step-V pulleys on motor and jackshaft; graduated-feed dials; table stops; 1 hardened arbor with No. 10 B. & S. taper shank, either ½" or 1" diameter; necessary V- belts, wrenches, and guards. \$375. 00

ADDITIONAL EQUIPMENT

Power-feed attachment complete. \$75. 00
Plain index centers. 47. 50
Draw-in attachment complete: includes draw-bar, adapter, and 1 round standard 2AB Hardinge collet. 23. 50
No. 4 swivel vise with hardened- and ground-steel jaws complete with wrench opens 2¼" x 4" x 1½". Weight 26 pounds. (This size suitable for No. 3 hand miller). 22. 50
No. 5½ swivel vise with hardened- and ground-steel jaws complete with wrench. Opens 3¼" x 5½" x 1½". 30. 00
No. 5½ plain vise, same dimensions as above. Jaws not hardened. 20. 00

THE MINSTER MACHINE CO., MINSTER, OHIO

MINSTER OPEN BACK INCLINABLE PRESSES

Number of press.....	1	2	3	4	5	6	7	8	9
Capacity near bottom of stroke tons.....	12	16	22	32	45	56	71	88	106
Number of engagements in clutch.....	10	10	4	4	4	4	4	4	4
Flywheel press, standard stroke, standard die space or shut height, clutch wheel mounted on Timken roller bearings, inclining attachment, crankshaft bearings bushed with true ring nickel bronze bushings, dot lubrication, K. O. in slide, plain bolster plate and without motor drive.....	\$325	\$305	\$400	\$610	\$765	\$1, 100	\$1, 775	\$2, 280	\$2, 715
Approximate weight..... pounds.....	1, 400	1, 650	2, 750	4, 100	6, 000	8, 250	14, 500	22, 500	26, 000
Flywheel press, same description as above, except furnished with pin-type clutch having nickel bronze flywheel bushing.....	\$295	\$360	\$435	\$580	\$735				
Geared press, standard stroke, standard die space or shut height, clutch wheel mounted on Timken roller bearings, inclining attachment, crankshaft bearings bushed with true ring nickel bronze bushings, drive shaft mounted on Timken roller bearings, dot lubrication, K. O. in slide, plain bolster plate and without motor drive.....				\$845	\$1, 030	\$1, 365	\$2, 145	\$2, 655	\$3, 090
Approximate weight..... pounds.....				4, 500	6, 600	9, 200	16, 000	25, 500	30, 000

NOTE.—Price corrections made upon advice of manufacturer. Prices differ from those shown in first edition of Prices of New Machine Tools.

MITTS & MERRIL, SAGINAW, MICH.

GIANT KEYSEATERS

No. of machine	Maximum capacity, width by length	Weight (machine only)	Current price (machine only)
No. 0	Inches 6	Pounds 900	\$528
No. 2	1¼ 12	1, 770	885
No. 3	2 15	2, 300	1, 150
No. 3A	2 24	2, 430	1, 210
No. 4	2½ 18	2, 765	1, 430
No. 5	3 24	4, 800	1, 815
No. 6	3½ 30	5, 390	2, 050
No. 6A	4 36	5, 785	2, 430
No. 8	4 42	6, 390	2, 900
No. 8A	4 50	6, 800	3, 630
No. 9	4 60	7, 580	4, 350

Last serial number for year 1919: 92253.
Last serial number for year 1929: A-112277.

Last serial number of year 1935: B-1217-¼.

MODERN MACHINE TOOL CO., JACKSON, MICH.

THE MODERN CUTTING-OFF MACHINE

	Weight	Price
	Pounds	
No. 2 Modern cutting-off machine with single cross slide.....	1, 600	\$1, 170
No. 2 machine with double cross slide.....		1, 285
No. 3 Modern cutting-off machine with single cross slide.....	1, 800	1, 260
No. 3 machine with double cross slide.....		1, 380
No. 4 Modern cutting-off machine with single cross slide.....	2, 300	1, 690
No. 4 machine with double cross slide.....		1, 810

MOLINE TOOL COMPANY, MOLINE, ILL.

	Price
No. 114 Cylinder Boring Machine with 3 spindles.....	\$11, 024
No. 115 Cylinder Boring Machine with 3 spindles.....	14, 003
HU68 Universal Joint Drilling Machine with 17 spindles.....	14, 845
M24 Special Two Spindle Milling Machine.....	9, 455
HL21 Honing Machine.....	7, 900
MR103 Special Way Machine.....	11, 978
12D Drilling Machine with 8 spindles.....	8, 590
115U Universal Joint Drilling Machine with 16 spindles.....	8, 439
MR104 Way Machine.....	5, 672
MR105 Special Mechanical Feed Horizontal Boring Machine.....	8, 804
17D Drilling Machine with 6 spindles.....	4, 525
M22 Milling Machine with 2 spindles.....	9, 185
16D Drilling Machine with 6 spindles.....	7, 565
M23 Milling Machine with 2 spindles.....	11, 675
No. 9 Drilling Machine with 10 spindles.....	5, 485
No. 4 and No. 5 Drillers.....	3, 500
PA789 No. 9 Drillers.....	5, 611
12D Drillers.....	7, 625
HD13 Drillers.....	6, 789
H-F64 Drillers.....	7, 885
HV13 Drillers.....	13, 121
115V Drillers.....	7, 662
(PA738-HV68) Drillers.....	14, 676

MONARCH MACHINE TOOL CO., SIDNEY, OHIO

STANDARD LATHES

Nominal size	Distance between centers, base bed length	Actual swing over bed	Weight	Prices	
				16-speed, silent chain, or multiple V-belt drive	Each additional 24" between centers
	Inches	Inches	Pounds		
KK.....	12	30	3, 100	\$2, 900	\$103
AA.....	14	30	4, 600	3, 150	115
W.....	16	30	4, 750	3, 450	126
BB.....	18	48	5, 600	3, 900	140
M.....	20	48	10, 100	5, 150	185
M.....	22	48	10, 300	5, 450	190
N.....	24	60	14, 800	7, 225	250
NN.....	27	60	15, 300	7, 855	270
NN.....	30	60	30, 500	9, 600	340
NN.....	36	60	21, 500	10, 050	380

STANDARD EQUIPMENT

Prices include headstocks, quick change gear boxes, and aprons completely Timkenized, and with automatic force-feed lubrication to bedways, carriage, apron, and compound rest; without motor or electrical equipment, but including mounting and wiring of electrical equipment.

MONARCH MACHINE TOOL CO., SIDNEY, OHIO—Continued
MODEL "C" TOOLROOM LATHES

Nominal size	Distance between centers, base bed length	Actual swing over bed	Weight	Prices	
				Helical geared head motor drive	Each additional 24" between centers
<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Pounds</i>		
12.....	30	14½	3,300	\$3,290	\$120
14.....	30	16½	4,300	3,570	135
16.....	30	18½	4,800	3,935	146
18.....	48	20½	6,000	4,580	165
20.....	48	22½	6,200	4,880	170

STANDARD EQUIPMENT

Prices include lead screw reverse mechanism with automatic stop in both directions of carriage travel, when either threading or feeding; oil pan, patented chasing stop including automatic force-feed lubrication on bedways, carriage apron and compound rest; Timkenized motor drive, without motor but including mounting, wiring.

MOORE SPECIAL TOOL COMPANY, INCORPORATED, BRIDGEPORT, CONN.

Jig borer: Moore precision..... \$3,375
 Jig grinder: Moore precision..... 5,900

THE MORGAN ENGINEERING COMPANY, ALLIANCE, OHIO

SINGLE STAND STEAM HAMMERS

Capacity (pounds):	Price, each	Capacity (pounds)—Continued.	Price, each
150.....	\$1,770	1,000.....	\$4,050
250.....	1,860	1,250.....	4,340
400.....	2,340	1,500.....	5,255
600.....	2,590	2,000.....	5,850
800.....	3,150	2,500.....	6,750

DOUBLE STAND STEAM HAMMERS

Capacity (pounds):	Price, each	Capacity (pounds)—Continued.	Price, each
2,000.....	\$6,885	6,000.....	\$14,130
2,500.....	8,080	8,000.....	20,520
3,000.....	8,300	10,000.....	28,260
3,500.....	9,610	12,000.....	34,020
4,000.....	10,440	12,000, C. S. stands.....	35,550
5,000.....	11,250		

STEAM DROP HAMMERS

Capacity (pounds):	Price, each	Capacity (pounds)—Continued.	Price, each
1,000.....	\$8,695	5,000.....	\$27,900
1,500.....	10,725	6,000.....	30,420
2,000.....	11,790	8,000.....	39,400
2,500.....	16,075	10,000.....	47,880
3,000.....	17,550	12,000.....	49,760
4,000.....	22,770		

THE MORRIS MACHINE TOOL CO., CINCINNATI, OHIO

RADIAL DRILLS

	3'11" Col.	4'11" Col.	4'13" Col.	5'13" Col.
Constant speed motor drive on arm.....	\$5,550	\$5,885	\$7,150	\$7,480
Variable speed motor drive on arm.....	5,300	5,640	6,930	7,250

TABLES

Plain box tables, 18" x 24" x 18".....	\$110	\$110	\$110	\$110
Plain box tables, 24" x 28" x 18".....	180	180	180	180
Universal tables, 18" x 24" x 21".....	365	365	365	365

CUTTING LUBRICANT SYSTEM

Including electrical equipment.....	\$200	\$200	\$200	\$200
-------------------------------------	-------	-------	-------	-------

On 13" column machines price includes rapid traverse to head and electric column clamp. On 11" column machines these are extra. \$484 for clamp. \$242 for Rapitrav.

	3'	4'
9" col. light duty radials including standard A. C. motor 9 spindle speeds.....	\$2,970	\$3,160
9" col. heavy duty radials including standard A. C. motor 12 spindle speeds.....	3,520	3,720
Plain box table.....	110	110

Old type horizontal drilling machine, \$4,500.

MOTCH & MERRYWEATHER MACH. CO., CLEVELAND, OHIO

NO. 1 AUTOMATIC SAW SHARPENER

Machine arranged for grinding alternate high and low teeth also the alternately bevelled roof-shaped teeth; drive is enclosed for protection against dust, with built-in dust exhaust system; machine has 2-stroke speeds, oil pump, for lubricating all moving parts inside head. Machine equipped with 1 index plate, 1 grinding wheel, and 1 saw blade arbor for either 28-, 30-, 38-, or 42-inch blade, belts and pulleys less motor and control..... \$1,000

ELECTRICAL EQUIPMENT

¾ horsepower, 1,800 revolutions per minute, constant-speed, fully enclosed ball-bearing motor with manual starter for operation on 220- or 440-volt, 3-phase, 60-cycle, alternating current..... 44
 Prices on other current and voltages furnished on request.

SPECIFICATIONS

NO. 1 AUTOMATIC SAW SHARPENER

Capacity blade sizes..... inches 6 to 42
 Maximum pitch will grind..... inches 1½
 Minimum pitch will grind..... inch ¾
 Motor required..... ¾ hp., 1,800 r. p. m.
 Weight..... pounds 1,000

MOTCH & MERRYWEATHER MACH. CO., CLEVELAND, OHIO—Con.

SPECIFICATIONS—Continued

NO. 3 HYDRAULIC FEED COLD SAWING MACHINE

Standard equipment: Hydraulically operated vertical vise, hand operated horizontal vise, 2 V blocks, gooseneck for cutting without burr, length stop, stock feed by swing lever and automatic elevating roller, star wheel chip remover, 1 28-inch diameter segmental type saw blade, saw blade guard, cutting compound pump and piping, pressure gauge, ammeter, push-button station, belt guard, and 2 horsepower, 1,200 revolutions per minute¹ open-type ball-bearing motor for hydraulic and coolant pumps, less main motor and control..... \$5,300.00

EXTRA EQUIPMENT

28-inch diameter high-speed segmental-type saw blades, each..... 175.00
 30-inch diameter high-speed segmental-type saw blades, each..... 190.00
 Segments for 28-inch blades furnished in .73- or .90-inch pitch, each..... 5.50
 Segments for 30-inch blades furnished in .98-inch pitch, each..... 5.95
 Additional star wheels for chip remover (1 required for each pitch blade) each..... 15.00
 Foot-treadle-operated stock stop..... 250.00
 Dolly-type stock conveyor..... 200.00
 Power driven roller feed attachment..... 250.00

ELECTRICAL EQUIPMENT¹

Saw carriage drive: 10 horsepower, 1,800 revolutions per minute, constant-speed open-type ball-bearing motor without base or pulley..... 118.00
 Starting apparatus: Magnetic starter for 10 horsepower, motor with overload relays for 2 horsepower motor without push button..... 52.00
 Mounting electrical equipment and wiring between motors and starters..... 50.00

NO. 4 HYDRAULIC-FEED COLD-SAWING MACHINE

Standard equipment: Hydraulically operated vertical vise, hand-operated horizontal vise, 2 V blocks, gooseneck for cutting without burr, length stop, stock feed by swing lever and automatic elevating roller, star wheel chip remover, 1 38-inch diameter segmental-type saw blade, saw-blade guard, cutting-compound pump and piping, pressure gauge, ammeter, push-button station, belt guard, and a 3 horsepower, 1,200 revolution per minute¹ open-type ball-bearing motor for hydraulic and coolant pumps, less main motor and control..... 8,500.00

EXTRA EQUIPMENT

38-inch diameter high-speed segmental-type saw blades, each..... 290.00
 42-inch diameter high-speed segmental-type saw blades, each..... 355.00
 Segments for 38-inch blades furnished in .98-inch pitch, each..... 7.40
 Segments for 42-inch blades furnished in 1.220-inch pitch, each..... 7.55
 Additional star wheels for chip remover (1 required for each pitch blade), each..... 15.00
 Foot treadle operated stock stop..... 250.00
 Dolly-type stock conveyor..... 200.00
 Power driven roller feed attachment..... 250.00

ELECTRICAL EQUIPMENT¹

Saw carriage drive: 15 horsepower, 1,800 revolutions per minute, constant-speed open-type ball-bearing motor without base or pulley..... 141.00
 Starting apparatus:
 Magnetic starter for 15 horsepower motor with overload relays for 3 horsepower motor without push button for operation on 440-volt alternate current..... 86.00
 Magnetic starter for operation on 220-volt alternate current..... 86.00
 Mounting electrical equipment and wiring between motors and starter..... 50.00

¹ Electrical equipment for operation on 220- and 440-volt, 3-phase, 60-cycle alternate current.

MURCHEY MACHINE AND TOOL CO., DETROIT, MICH.

NOTE.—Price corrections made upon advice of manufacturer. They differ from those shown in first edition of prices of New Machine Tools.

Model F roller pipe cutting-off machine:
 Less motor and control, less cutter wheel, capacity ½- to 2-inch... \$550.00
 Extra cage of rollers ¼- to ¾-inch..... 38.50
 Motors or electrical equipment at vendor's list price.

Model H roller pipe cutting-off machine:
 Belt driven, less cutter wheel, capacity 1¼- to 4-inch..... 745.00
 Above machine arranged for motor drive, but not including 3 horsepower 1,200 revolutions per minute motor required..... 835.00
 Extra cage of rollers for cutting pipe from ½- to 1¼-inch..... 65.00
 Extra cage of rollers for cutting pipe from 4- to 6-inch..... 104.50
 Motors or electrical equipment vendor's list price.

Model K double-end reaming and chamfering machine with motor reeves drive less center chuck and tooling..... 1,997.00
 Center chuck and tooling are ordinarily furnished by purchaser. Where furnished by Murchey these items are special and are quoted to meet requirements.

Chaser and die grinding machine less motor:
 Less motor and controls, less chaser holders and fixtures..... 635.00
 Motors or electrical equipment at vendor's list price.
 Fixture No. 2 to grind rake angle of tap or die chasers..... 106.25
 Fixture No. 3 to grind chamfer of the tap chasers..... 106.25
 Fixture No. 4 to grind cutter wheels..... 35.00
 Chaser holder Nos. 66, 67, or 68..... each..... 35.00

No. 11 single-spindle pipe-threading machine (capacity ¼- to 1¼-inch pipe):
 Less motor, controls, reamers, nipple holders, and chasers..... 1,842.50
 Motors and electrical equipment at vendor's list price.
 NOTE.—Additional equipment listed below.

No. 11 double-spindle pipe-threading machine (capacity ¼- to 1¼-inch pipe):
 Less motor, controls, reamers, nipple holders, and chasers..... 2,975.50
 Motors and electrical equipment at vendor's list price.
 Standard equipment for No. 11 pipe-threading machines.

No. 22 single-spindle pipe-threading machine (capacity ½- to 2-inch pipe):
 Less motor, controls, reamers, nipple holders, and chasers..... 2,514.00
 Motors and electrical equipment at vendors list prices.
 NOTE.—Additional equipment listed below.

No. 22 double-spindle pipe-threading machine (capacity ½ to 2-inch pipe):
 Less motor, controls, reamers, nipple holders, and chasers..... 4,042.50
 Motors, and electrical equipment at vendor's list prices.
 Standard equipment for No. 22 pipe-threading machines.

No. 11 single-spindle bolt-threading machine (capacity ¼- to 1-inch N. C.) (standard bed):
 Less motor, controls, less lead screw, lead nuts, locator, and chasers..... 1,517.00
 No. 11 single-spindle bolt-threading machine (long-bed type)..... 1,550.00
 Motors and electrical equipment at vendor's list prices.

No. 11 double-spindle bolt-threading machine (capacity ¼- to 1-inch N. C.) (standard bed):
 Less motor, controls, less lead screw, lead nuts, locators, and chasers..... 2,437.00
 No. 11 double-spindle bolt-threading machine (capacity ¼- to 1-inch N. C.) (long-bed type)..... 2,503.00
 Motors and electrical equipment at vendor's list prices.
 Standard equipment for No. 11 bolt-threading machines:
 Lead screw attachment geared for any selected pitch (standard-bed machine) each..... 370.00
 Lead screw attachment geared for any selected pitch (long-bed machine) each..... 380.00

MURCHEY MACHINE AND TOOL CO., DETROIT, MICH.—Continued

No. 22 single-spindle bolt-threading machine (capacity $\frac{1}{2}$ - to $1\frac{1}{2}$ -inch N. C.) (standard-bed type):	
Less motor control, less lead screw, lead nuts, locator, and chasers.....	\$2, 184. 00
No. 22 single spindle bolt threading machine (capacity $\frac{1}{2}$ to $1\frac{1}{2}$ inches) (long bed type):	
Less motor, control, less lead screw, lead nuts, locator and chasers.....	2, 217. 00
Motors and electrical equipment at vendor's list prices.	
No. 22 double spindle bolt threading machine (capacity $\frac{1}{2}$ to $1\frac{1}{2}$ inches N. C.) (standard bed type):	
Less motor control, less lead screw, lead nuts, locator and chasers.....	3, 345. 00
No. 22 double spindle bolt threading machine (capacity $\frac{1}{2}$ to $1\frac{1}{2}$ inches N. C.) (long bed type).....	3, 410. 00
Motors and electrical equipment at vendor's list prices.	
Standard equipment for No. 22 bolt threading machines.	
Lead screw attachment geared for any selected pitch standard bed machine.....	357. 00
Lead screw attachment geared for any selected pitch (long bed machine).....	413. 00
No. 22 double spindle long bed shell tapping machine (capacity $1\frac{1}{2}$ to $2\frac{1}{2}$ inches). Less motor, controls, wiring; less taps, chasers and fixtures.....	3, 390. 75
No. 32 single spindle thread milling machine (capacity 1 to 4 inches) with standard motors, controls, hydraulic equipment less lead screw, lead nuts, hob milling head and fixture.....	6, 850. 00
1 lead screw any single pitch.....	125. 00
1 set lead nuts any single pitch.....	90. 00
1 No. 1 milling head (capacity $\frac{3}{8}$ to $1\frac{1}{2}$ inches) without cutters.....	600. 00
1 No. 2 milling head (capacity $1\frac{1}{8}$ to $2\frac{3}{8}$ inches) without cutters.....	700. 00
1 No. 3 milling head (capacity $2\frac{1}{4}$ to $3\frac{1}{4}$ inches) without cutters.....	800. 00
1 No. 4 milling head (capacity $3\frac{3}{8}$ to $4\frac{1}{2}$ inches) without cutters.....	900. 00
No. 42 single spindle thread milling machine (capacity 4 to 12 inches) with standard motors, controls, hydraulic equipment less lead screw, lead nuts, hob, milling head and fixture.....	9, 000. 00
1 lead screw any single pitch.....	150. 00
1 set lead nuts any single pitch.....	90. 00
1 No. 5 milling head (capacity $3\frac{3}{8}$ to $4\frac{1}{2}$ inches) without cutters.....	1, 000. 00
1 No. 6 milling head (capacity $4\frac{3}{8}$ to $5\frac{1}{2}$ inches) without cutters.....	1, 275. 00
1 No. 7 milling head (capacity $5\frac{3}{8}$ to $6\frac{1}{2}$ inches) without cutters.....	1, 550. 00

THE NATIONAL ACME CO., CLEVELAND, OHIO

Machine size	Domestic shipping weight	Price	Machine size	Domestic shipping weight	Price
Model RA-4 Spindle:	Pounds		Model RA-6 Spindle—Con.	Pounds	
1".....	10, 200	\$8, 200	1 1/2".....	13, 200	\$9, 775
1 1/2".....	13, 100	9, 450	2".....	23, 200	12, 000
2".....	23, 700	11, 550	2 1/2" RAS.....	23, 700	13, 450
2 1/2".....	24, 500	12, 375	3".....	29, 100	15, 200
3".....	30, 000	13, 650	3 1/2".....	33, 300	18, 400
3 1/2".....	32, 000	16, 425	Model RA-8 Spindle:		
4".....	33, 000	17, 600	1 1/2".....	29, 300	14, 700
Model RA-6 Spindle:			2".....	33, 100	17, 250
1 1/2".....	9, 500	7, 875	2 1/2".....	34, 700	18, 300
2".....	10, 500	9, 025			

¹ These machines temporarily discontinued.

NATIONAL ACME

Model No.	Obsolete machines	Equi-	Model No.	Obsolete machines	Equi-
	Description	valent		Description	valent
715.....	1/2" plain.....	\$3, 000	53.....	1" with threading.....	\$4, 000
515.....	1/2" with threading.....	3, 520	75.....	1 1/2" plain.....	4, 700
72.....	3/4" plain.....	3, 200	55.....	1 1/2" with threading.....	5, 200
52.....	3/4" with threading.....	3, 750	76.....	2 1/4" plain.....	5, 000
78.....	1" plain.....	3, 600	56.....	2 1/4" with threading.....	5, 500

THE NATIONAL AUTOMATIC TOOL CO., RICHMOND, IND.

DRILLS

Model	Head size	Bored for	Size upper joints	Item No. 1 base price arranged for belt or motor drive	Item No. 2 base price reversing motor drive taper	Spindles standard	Tap holders
			Inches				
C type 12.....	10" x 16".....	20	1	\$3, 060	\$2, 675	\$35	\$13
C type 13.....	14" round.....	18	1 1/4	3, 680	3, 305	35	13
Do.....	16" x 24".....	24	1 1/4	3, 965	3, 590	35	13
Do.....	18" x 40".....	32	1	4, 340	3, 840	35	13
B type 14.....	18" round.....	12	2	4, 230	3, 845	1 65	1 22
Do.....	18" round.....	18	1 1/2	4, 305	3, 865	1 40	1 13
Do.....	18" x 32".....	16	2	4, 820	4, 415	1 65	1 22
Do.....	18" x 32".....	24	1 1/2	4, 845	4, 385	1 40	1 13
B type 16.....	26" round.....	12	2	4, 445	3, 970	1 40	1 13
Do.....	26" round.....	22	1 1/2	4, 585	4, 095	1 40	1 13
Do.....	22" x 38".....	24	2	5, 515	5, 045	1 40	1 13
Do.....	22" x 38".....	34	1 1/2	5, 610	5, 165	1 40	1 13
Do.....	22" x 38".....	48	1	5, 815	5, 370	1 40	1 13
Do.....	24" x 50".....	42	1 1/2	6, 285	5, 825	1 40	1 13
Do.....	24" x 50".....	60	1	6, 635	6, 175	1 40	1 13

¹ 3 or 4. ² 2 or 3. ³ 1 or 2.
⁴ These heads are not designed for drilling or tapping in steel, and should not be used for drilling or tapping larger than 1/4-inch holes in case iron or 1/2-inch holes in aluminum.

The No. 16 machine was formerly known as No. 30.

MODEL B TYPE 14—NATCO MULTIDRILLER AND TAPPER

Item No. 1, base price includes all electrical equipment including enclosed motor and power feed to head but does not include adjustable table. For tapping operations this machine must be arranged with a mechanical tapping attachment.
 Item No. 2, base price includes all electrical equipment including enclosed motor and hand feed to head but does not include adjustable table.

PRICES FOR ADDITIONAL ATTACHMENTS

Cluster plate.....	\$150
Slip spindle plate.....	235
Add for boring slip spindle plate, per hole.....	8
Slip spindles, plain nose (for use with slip spindle plates only):	
Standard 2 1/4" diameter No. 3 or 4 M. T.....	65
Standard 1 1/2" diameter No. 2 or 3 M. T.....	40
Standard 1 1/8" diameter No. 1 or 2 M. T.....	40
Special 1 1/2" diameter No. 1 or 2 M. T.....	45
Special 3/8" diameter No. 1 or 2 M. T.....	45
Slip spindles, nose adjusting (for use with slip spindle plates only):	
Standard 2 1/4" diameter No. 2 or 3 M. T.....	65
Standard 1 1/2" diameter No. 1 or 2 M. T.....	40
Standard 1 1/8" diameter No. 1 M. T.....	40
Special 1 1/2" diameter No. 1 M. T.....	45
Tapping attachment (for machines under item No. 1 only).....	620
Spot facing attachment (for machines under item No. 1 only).....	435
Coolant pump, gear driven gear type (for machines under item No. 1 only).....	85
Coolant pump, motor driven, complete with motor and controls for machines under item No. 2 or for machines under item No. 1 or 2 if arranged with a V belt drive.....	160
Extension to column and feed, 12".....	150
Extension to column and feed, 24".....	260

NATIONAL AUTOMATIC TOOL COMPANY, RICHMOND, IND.—Continued
ADDITIONAL EQUIPMENT PRICES FOR MACHINES ALREADY IN FIELD

Size	Spindles taper	Price
	STANDARD	
2 1/4"	3 or 4.....	\$75
1 3/4"	2 or 3.....	45
1 3/8"	1 or 2.....	45
	SPECIAL	
1 1/4"	1 or 2.....	50
3/4"	1 or 2.....	50

MODEL B TYPE 16—NATCO MULTIDRILLER AND TAPPER

Item No. 1, base price includes all electrical equipment including enclosed motor and power feed to head but does not include adjustable table. For tapping operations this machine must be arranged with a mechanical tapping attachment. Item No. 2, base price includes all electrical equipment including enclosed motor and hand feed to head but does not include an adjustable table.

PRICES FOR ADDITIONAL ATTACHMENTS

Cluster plate.....	\$265
Slip spindle plate.....	335
Add for boring slip spindle plate, per hole.....	8
Slip spindles, plain nose (for use with slip spindle plates only):	
Standard 2 1/4" diameter No. 3 or 4 M. T.....	65
Standard 1 3/4" diameter No. 2 or 3 M. T.....	40
Standard 1 3/8" diameter No. 1 or 2 M. T.....	40
Special 1 1/4" diameter No. 1 or 2 M. T.....	45
Special 3/4" diameter No. 1 or 2 M. T.....	45
Slip spindles, nose adjusting (for use with slip spindle plates only):	
Standard 2 1/4" diameter No. 2 or 3 M. T.....	65
Standard 1 3/4" diameter No. 1 or 2 M. T.....	40
Standard 1 3/8" diameter No. 1 M. T.....	40
Special 1 1/4" diameter No. 1 M. T.....	45
Tapping attachment (for machines under item No. 1 only).....	670
Spot facing attachment (for machines under item No. 1 only).....	435
Coolant pump, gear driven gear type (for machines under item 1 only).....	85
Coolant pump, motor driven, complete with motor and controls for machines under item No. 2 or for machines under item No. 1 or No. 2 if arranged with a V belt drive.....	160
Extension to column and feed, 12".....	150
Extension to column and feed, 24".....	260
Extension to column and feed, 36".....	430

ADDITIONAL EQUIPMENT PRICES FOR MACHINES ALREADY IN FIELD

Size	Spindles, Taper, Standard	Price
	STANDARD	
2 1/4"	3 or 4.....	\$75
1 3/4"	2 or 3.....	45
1 3/8"	1 or 2.....	45
	SPECIAL	
1 1/4"	1 or 2.....	50
3/4"	1 or 2.....	50

MODEL C TYPE 12—NATCO MULTIDRILLER AND TAPPER

Item No. 1, Base price includes all electrical equipment including enclosed motor, adjustable table and power feed to head.
Item No. 2, Base price includes all electrical equipment including enclosed motor, adjustable table and hand feed to head.

NATIONAL AUTOMATIC TOOL COMPANY, RICHMOND, IND.—Continued

PRICES FOR ADDITIONAL ATTACHMENTS

Cluster plate.....	\$115
Slip Spindle plate.....	165
Add for boring slip spindle plate, per hole.....	8
Slip spindles, plain nose (for use with slip spindle plate only):	
Standard 1 1/4" diameter No. 1 or 2 M. T.....	35
Special 3/4" diameter No. 1 or 2 M. T.....	45
Slip spindle, nose adjusting (for use with slip spindle plate only):	
Standard 1 1/4" diameter No. 1 M. T.....	35
Tapping attachment (for machines under item No. 1 only).....	430
Spot facing attachment (for machines under item No. 1 only).....	435
Coolant pump, belt driven gear type (for machines under item No. 1 only).....	85
Coolant pump, motor driven, complete with motor and controls for machines under item No. 2 or for machines under item No. 1 or 2 if arranged with a V belt drive.....	160
12-inch extension to column and feed.....	120

ADDITIONAL EQUIPMENT PRICES FOR MACHINES ALREADY IN FIELD

Size	Spindles Taper, Standard	Price
	STANDARD	
1 3/4"	1 or 2.....	\$40
	SPECIAL	
3/4"	1 or 2.....	50

MODEL C TYPE 13—NATCO MULTIDRILLER AND TAPPER

Item No. 1, base price includes all electrical equipment including enclosed motor, adjustable table and power feed to head.
Item No. 2, base price includes all electrical equipment including enclosed motor, adjustable table and hand feed to head.

PRICE FOR ADDITIONAL ATTACHMENTS

Cluster plate.....	\$120
Slip spindle plate.....	205
Add for boring slip spindle plate, per hole.....	8
Slip spindles, plain nose (for use with slip spindle plate only):	
Standard 1 3/4" diameter No. 1 or 2 M. T.....	35
Special 1 1/4" diameter No. 1 or 2 M. T.....	45
Slip spindle, nose adjusting (for use with slip spindle plate only):	
Standard 1 3/4" diameter No. 1 M. T.....	35
Special 1 1/4" diameter No. 1 M. T.....	45
Tapping Attachment (for machines under item No. 1 only).....	430
Spot facing attachment (for machines under item No. 1 only).....	435
Coolant pump, belt driven gear type (for machines under item No. 1 only).....	85
Coolant pump, motor driven complete with motor and controls for machines under item No. 2, or for machines under item No. 1 or 2 with a V belt drive.....	160
Extension to column and feed, 12".....	120

ADDITIONAL EQUIPMENT PRICES FOR MACHINES ALREADY IN FIELD

Size	Spindles Taper Standard	Price
	STANDARD	
1 3/4"	1 or 2.....	\$40
	SPECIAL	
1 1/4"	1 or 2.....	50
3/4"	1 or 2.....	50
3/4"	0 or 1.....	50

NATIONAL AUTOMATIC TOOL COMPANY, RICHMOND, IND.—Continued

MISCELLANEOUS EQUIPMENT

Standard rotating tables, hand indexed for 2, 3, 4, or 6 positions:	
22-inch diameter table ¹	\$355
34-inch diameter table ¹	500
44-inch diameter table ¹	710
Additional charge for indexing other than above	45
Additional charge for T slots in working surface of table	35

¹ Additional charge for electric Interlock on Nateco C12, C13, B14, B16, and B225H machines, \$250.

NATIONAL BROACH & MACHINE CO., DETROIT, MICH.

Type of machine	Capacity	Price
Standard Gear Shaving Machine	1" to 8"	\$5,025
Do.	1" to 12"	5,855
Do.	3" to 16"	6,525
Do.	3" to 24"	11,590
Heavy Duty Gear Shaving Machine	1" to 8"	5,425
Do.	1" to 12"	6,355
Do.	3" to 18"	7,750
Gear Lapping Machine	1" to 8"	3,360
Do.	3" to 15"	3,865
Do.	3" to 18"	4,255
Sound Testing Machine:		
Hollow spindle	10" O. D.	1,795
Solid spindle	10" O. D.	1,695
Hollow spindle	18" O. D.	2,650
Solid spindle	18" O. D.	2,550
Universal Gear Tester	1 1/4" to 12 1/4"	1,600
Do.	3" to 24"	2,400
Lead Comparator	1 1/2" to 12 1/2"	2,025
Do.	3" to 24"	3,070
Roto Milling Machine	10" maximum	24,710
Do.	24" maximum	29,425
Roto Shaving Machine	Vertical type	8,600
Do.	Horizontal type	11,950
Gear Grinding Machine (12" between centers):		
For spur gears	18" O. D.	11,300
For helical gears	18" O. D.	13,850
Profile Milling Machine	3" x 5"	9,650
Do.	6" x 10"	13,050

NATIONAL MACHINERY CO., TIFFIN, OHIO

NATIONAL SEMIHOT AUTOMATIC FEED HEADERS—SEMI-AUTOMATIC HAMMER HEADERS

Size	Net weight	Price belt drive with regular equipment	Price geared motor drive with regular equipment ¹	Regular equipment	Size of motor	R. p. m. of motor
3/4" semi-hot rivet header, steel bed, with automatic feed	Pounds 7,200	\$8,350	\$9,100	A	Horsepower 10	900
5/8" semihot rivet header, steel bed, with automatic feed ²	18,000	13,125	14,100	A	20	900
1" automatic feed hot header, steel bed ²	18,000	13,125	14,100	A	20	900
1" semihot rivet header, steel bed, with automatic feed ²	31,500	17,325	18,375	A	30	720
1 1/4" automatic feed hot header, steel bed ²	31,500	17,325	18,375	A	30	720
1" continuous motion semiautomatic hammer bolt header	12,000	8,625	9,450	B	10	900
1 1/2" same	25,000	14,675	15,725	B	15	900

A—The regular equipment includes automatic feed attachment, automatic oiling system, friction-slip flywheel, countershaft, wrenches and one size of sample dies.

B—The regular equipment includes friction-slip flywheel, countershaft, wrenches, cam for any one number of blows and one size of sample dies.

¹ Geared motor drive includes cut steel driving gear, silent motor pinion, gear guard, motor platform, mounting of the motor if sent to us, etc., but does not include motor or controls. (Drive is through the national friction-slip flywheel.)

² Keep in mind that the 3/4" semihot is a 1" hot header, and the 1" semihot is a 1 1/4" hot header. In every case where low price is a deciding factor, the quotation should cover both semihot and hot machines.

NATIONAL MACHINERY CO., TIFFIN, OHIO—Continued

NATIONAL HIGH DUTY FORGING MACHINES

Size	Net weight	Price V-belt motor drive	Allowance for omission of dies	Extra for side shear	Extra for back stop	Regular equipment ¹	Size of motor	R. p. m. of motor
1" high duty heading and forging machine	Pounds 13,000	\$9,250	\$150	\$160	\$90	C	Horsepower 7 1/2	900
extra for rivet ejector		325						
extra for bending attachment		265						
1 1/4" high duty heading and forging machine	23,500	12,950	225	175	100	C	10	900
extra for rivet ejector		340						
extra for bending attachment		265						
extra for back gages for grab irons		190						
2" high duty forging machine	37,000	16,550	300	190	140	C	15	900
2 1/4" same	43,000	20,275	375	210	150	C	20	900
3" same	75,000	26,100	450	250	190	C	25	900
4" same	130,000	38,300	600	290	225	C	40	900
5" same	180,000	50,600	750	340	260	C	50	900
6" same	255,000	73,850	900	390	290	C	75	900
7 1/2" same	375,000	107,500	1,125	450	350	C	150	900
9" same	500,000	141,750	1,350	500	425	C	250	900

NATIONAL HIGH SPEED FORGING MAXIPRESSES

Size	Net weight	Price V-belt motor drive with regular equipment ¹	Size of motor	R. p. m. of motor
No. 1 1/2	Pounds 32,000	\$12,300	Horsepower 20	900
No. 2	42,000	14,950	30	900
No. 3	70,000	20,600	50	900
No. 4	122,000	34,500	75	900
No. 5	154,000	47,600	100	900
No. 6	280,000	71,200	150	900

NATIONAL COINING MAXIPRESSES

Size	Net weight	Price V-belt motor drive with regular equipment ¹	Size of motor	R. p. m. of motor
No. 1	Pounds 19,000	\$7,600	Horsepower 10	900
No. 1 1/2	31,600	11,700	15	900
No. 2	41,200	14,300	25	900
No. 3	69,000	19,650	40	900
No. 4	120,000	32,900	50	900
No. 5	180,000	45,400	75	900
No. 6	275,000	67,950	100	900

¹ Regular equipment includes over-arm ram, friction air clutch with telltale safety, air brake, centralized force feed lubrication and wrenches, V-belts, motor sheave, adjustable motor platform, mounting of motor if sent to us, but does not include motor or dies.

NATIONAL MACHINERY CO., TIFFIN, OHIO—Continued

NATIONAL DOUBLE STROKE OPEN DIE COLD HEADERS (UNIVERSAL TYPE)

Size	Length	Net weight	Price belt drive with regular equipment ¹	Price motor drive with regular equipment ²	Size of motor	R. p. m. of motor	Code word belt drive	Code word motor drive
		<i>Pounds</i>			<i>Horsepower</i>			
3/4"	1 1/2"	2,800	\$4,375	\$4,475	2	1,800	Colub.	Ellub.
3/4"	2 1/2"	4,800	5,525	5,675	3	1,200	Coluf.	Elluf.
3/4"	3"	8,700	7,000	7,200	5	1,200	Coluk.	Elluk.
3/4"	3 1/2"	11,700	8,750	8,975	7 1/2	1,200	Colum.	Ellum.
3/4"	4"	16,400	10,950	11,200	15	1,200	Colup.	Ellup.
3/4"	5"	31,000	15,200	15,500	20	1,200	Colur.	Ellur.
3/4"	6"	57,500	22,400	22,750	40	900	Coluc.	Elluc.
3/4"	8"	73,000	32,200	32,650	50	900	Colud.	Ellud.

NATIONAL COLD BALL HEADERS

Size	Net weight	Price belt drive with regular equipment ¹	Price motor drive with regular equipment ²	Size of motor	R. p. m. of motor
	<i>Pounds</i>			<i>Horsepower</i>	
3/4"	2,100	\$3,150	\$3,250	2	1,200
3/4"	3,800	4,225	4,375	3	1,200
3/4"	6,700	5,650	5,850	5	1,200
3/4"	9,700	7,325	7,550	7 1/2	1,200
3/4"	13,400	9,400	9,650	10	1,200
3/4"	22,200	12,700	13,000	20	1,200
3/4"	39,500	17,900	18,250	40	900

¹ Regular equipment for both single and double blow machines includes steel bed frame, over arm heading slide, friction slip flywheel, cut-off and carry-over mechanism, automatic oiling system, wrenches, and one set of sample dies.

² Motor drive: Multiple V-belt motor drive is furnished on 3/4", 3/4", 3/4", and 3/4" machines. The 3/4" and above are furnished direct geared motor drive.

NATIONAL SINGLE STROKE SOLID DIE COLD HEADERS

Size	Length	Net weight	Price belt drive with regular equipment ¹	Price motor drive with regular equipment ²	Size of motor	R. p. m. of motor
		<i>Pounds</i>			<i>Horsepower</i>	
3/4"	3 1/2"	2,100	\$2,450	\$2,550	2	1,200
3/4"	1"	3,800	3,325	3,475	3	1,200
3/4"	1 1/2"	6,700	4,550	4,750	5	1,200
3/4"	1 3/4"	9,700	5,925	6,150	7 1/2	1,200
3/4"	2"	13,400	7,625	7,875	10	1,200
3/4"	2 1/2"	22,200	10,600	10,900	20	1,200
3/4"	3"	39,500	15,250	15,600	40	900
3/4"	4 1/2"	58,500	22,250	22,700	50	900

NATIONAL LONG STROKE SINGLE BLOW SOLID DIE COLD HEADERS

Size	Length	Net weight	Price belt drive with regular equipment ¹	Price motor drive with regular equipment ²	Size of motor	R. p. m. of motor
		<i>Pounds</i>			<i>Horsepower</i>	
3/4"	1 1/2"	2,400	\$3,000	\$3,100	2	1,200
3/4"	2 1/2"	4,450	3,950	4,100	3	1,200
3/4"	3"	7,700	5,200	5,400	5	1,200
3/4"	3 1/2"	10,650	6,675	6,900	7 1/2	1,200
3/4"	4"	15,400	8,425	8,675	15	1,200
3/4"	5"	27,850	11,550	11,850	20	1,200
3/4"	6"	49,800	16,750	17,100	40	900
3/4"	8"	65,000	23,850	24,300	50	900

¹ Regular equipment for both single and double blow machines includes steel bed frame over arm heading slide, friction slip flywheel cut-off and carry-over mechanism, automatic oiling system, wrenches, and one set of sample dies.

² Motor drive: Multiple V belt motor drive is furnished on 3/4", 3/4", 3/4", and 3/4" machines. The 3/4" and above are furnished direct geared motor drive.

NATIONAL MACHINERY CO., TIFFIN, OHIO—Continued

NATIONAL DOUBLE STROKE SOLID DIE COLD HEADERS

Size	Length	Net weight	Price belt drive with regular equipment ¹	Price motor drive with regular equipment ²	Size of motor	R. p. m. of motor
		<i>Pounds</i>			<i>Horsepower</i>	
3/4"	3 1/2"	2,200	\$3,375	\$3,475	2	1,800
3/4"	1"	4,100	4,475	4,625	3	1,200
3/4"	1 1/2"	7,000	5,900	6,100	5	1,200
3/4"	1 3/4"	10,400	7,900	8,225	7 1/2	1,200
3/4"	2"	14,800	9,525	9,775	10	1,200
3/4"	2 1/2"	22,800	13,200	13,500	20	1,200
3/4"	3"	42,000	19,325	19,675	40	900
3/4"	4 1/2"	60,000	27,950	28,400	50	900

NATIONAL LONG STROKE DOUBLE BLOW SOLID DIE COLD HEADERS

Size	Length	Net weight	Price belt drive with regular equipment ¹	Price motor drive with regular equipment ²	Size of motor	R. p. m. of motor
		<i>Pounds</i>			<i>Horsepower</i>	
3/4"	1 1/2"	2,700	\$4,000	\$4,100	2	1,800
3/4"	2 1/2"	4,650	5,050	5,200	3	1,200
3/4"	3"	8,500	6,325	6,725	5	1,200
3/4"	3 1/2"	11,450	8,225	8,450	7 1/2	1,200
3/4"	4"	15,700	10,350	10,600	15	1,200
3/4"	5"	28,700	14,375	14,675	20	1,200
3/4"	6"	53,000	20,850	21,200	40	900
3/4"	8"	67,000	30,050	30,500	50	900

¹ Regular equipment for both single and double blow machines includes steel bed frame, over-arm heading slide, friction-slip flywheel, cut-off and carry-over mechanism, automatic oiling system, wrenches, and one set of sample dies.

² Motor drive: Multiple V-belt motor drive is furnished on 3/4", 3/4", 3/4", and 3/4" machines. The 3/4" and above are furnished direct geared motor drive.

Multiple V-belt drive includes belts, motor sheave, adjustable motor platform, guard, mounting of motor if sent to us, but does not include motor.

Direct geared drive includes cut steel driving gear, silent motor pinion, motor platform, guard, mounting of motor if sent to us, but does not include motor.

Attachments for cold headers

RELIEVING ATTACHMENT

Size	Price	Code Word	Size	Price	Code Word
3/4"	\$425	Relab.	3/4"	650	Reliz.
3/4"	475	Relak.	3/4"	725	Relop.
3/4"	550	Relaw.	3/4"	825	Relor.
3/4"	600	Reled.	3/4"	950	Relot.

Relieving attachments are available for all double-blow machines. This attachment must be installed at the time the machine is built.

STANDARD WIRE STRAIGHTENERS

Size	Price	Code Word	Size	Price	Code Word
3/4"	\$125	Strab.	3/4"	190	Straw.
3/4"	150	Stram.	3/4"	200	Strax.
3/4"	170	Strat.	3/4"	225	Straz.

Standard wire straighteners are available for all types of machines.

FEEDING MECHANISM AND STRAIGHTENING DEVICE

Size	Price	Code Word
3/4"	\$1,400	Strad.
3/4"	1,650	Stray.
3/4"	2,700	Stras.

Feeding mechanism and straightening device is available for all large machines. Price includes special stallable type motor. This attachment for the 3/4" Machine also includes motor driven hydraulic grip roll.

NATIONAL MACHINERY CO., TIFFIN, OHIO—Continued

NATIONAL AUTOMATIC BOLT TRIMMER

Size	Net weight	Price belt drive with regular equipment	Price V-Belt motor drive with regular equipment ¹	Price geared motor drive with regular equipment ²	Size of motor	R.p.m. of motor	Code word belt drive	Code word geared motor drive
1" machine.....	<i>Pounds</i> 8,700	\$7,000	\$7,250	\$7,650	<i>Horse-power</i> 5	900	Trima	Eltri.
Extra for feeding table, conveyor and scrap separator.	1,400	875					Trimx	

The regular equipment includes lubricating system, oil pan, countershaft, wrenches and a complete set of tools for trimming $\frac{1}{2}$ ", $\frac{3}{8}$ ", $\frac{1}{4}$ ", $\frac{3}{16}$ ", and 1" USS Square and Hexagonal head bolts.

¹ V-belt motor drive includes multiple V-belts, motor sheave, but does not include the motor. Motor is mounted on floor, and connection is by V-belts.

² Geared motor drive includes cut steel motor gear, silent pinion, motor platform, mounting, etc., but does not include motor.

NATIONAL BOLT POINTERS

Size	Net weight	Price belt drive with regular equipment	Price motor drive with regular equipment ¹	Regular equipment	Size of motor	R.p.m. of motor	Code word belt drive	Code word motor drive
$\frac{5}{8}$ " bench pointer.....	<i>Pounds</i> 400	\$475	\$525	A	$\frac{3}{4}$ "	1,200	Poiad	Ellad.
1" pointer.....	1,000	650	750	B	1"	1,200	Poiam	Ellam.
1 $\frac{1}{2}$ " pointer.....	1,775	775	1,150	C	1 $\frac{1}{2}$ "	1,200	Poiap	Ellap.
2" pointer.....	1,775	900	1,325	D	2"	1,200	Poiar	Ellar.

Regular equipment—A includes wrenches, bushings, and cutting tools for pointing $\frac{1}{4}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ ", $\frac{1}{2}$ ", and $\frac{3}{4}$ " inch diam. Countershaft is furnished extra when ordered.

B includes countershaft, wrenches, bushings, and cutting tools for pointing $\frac{1}{4}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ ", and 1 inch diam.

C includes pump, countershaft, wrenches, bushings, and cutting tools for pointing $\frac{1}{4}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ ", 1, 1 $\frac{1}{2}$ ", and 1 $\frac{1}{2}$ " inch diam.

D includes pump, countershaft, wrenches, bushings, and cutting tools for pointing $\frac{1}{4}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ ", $\frac{1}{2}$ ", 1, 1 $\frac{1}{2}$ ", 1 $\frac{1}{2}$ ", 1 $\frac{1}{2}$ ", and 2 inch diam.

¹ On 1" machine a direct geared single, constant speed motor drive is provided; but on the 1 $\frac{1}{2}$ " and 2" machines a speed change device is provided, giving four changes of speed, the same as used on national motor-driven bolt cutters. Any make of shunt wound constant speed DC motor, or squirrel cage AC motor is satisfactory. Price includes mounting but does not include motor.

NATIONAL LAG SCREW GIMLET POINTERS

Size	Net weight	Price belt drive with regular equipment	Price motor drive with regular equipment ¹	Size of motor	R.p.m. of motor	Code word belt drive	Code word motor drive
$\frac{1}{2}$ " machine.....	<i>Pounds</i> 1,800	\$2,000	\$2,100	<i>Horse-power</i> 3	1,200	Poias	Ellas.
$\frac{3}{4}$ " machine.....	2,100	2,400	2,600	5	1,200	Poiat	Ellat.

¹ The regular equipment includes pump, countershaft, wrenches, and one sample set of cutters.

² A direct-geared, single constant speed, motor drive is provided.

Price includes mounting, but does not include motor.

Any make of shunt wound constant speed DC or squirrel cage AC motor is satisfactory.

NATIONAL MACHINERY CO., TIFFIN, OHIO—Continued

NATIONAL RAPID BOLT CUTTERS

Size	Net weight	Price belt drive with regular equipment	Price motor drive with regular equipment ¹	Regular equipment	Size of motor	R.p.m. of motor	Code word belt drive	Code word motor drive
$\frac{3}{4}$ " single bench.....	<i>Pounds</i> 575	\$475	Not built	A	<i>Horse-power</i> 2		Rapad	Elpad.
$\frac{1}{2}$ " single rapid.....	1,100	800	Not built	B	2	1,200	Rapaf	Elpaf.
$\frac{3}{8}$ " double rapid.....	1,800	1,250	\$1,650	C	3	1,200	Rapak	Elpak.
1" double rapid.....	2,450	1,550	2,000	D	5	1,200	Rapan	Elpan.
1 $\frac{1}{2}$ " triple rapid.....	3,250	2,100	2,650	E	5	1,200	Rapar	Elpar.
1" quadruple rapid.....	4,800	2,850	3,475	F	5	1,200		

Regular Equipment—A includes countershaft, wrenches, screw vise, and one set of sample dies.

B includes pump, countershaft, wrenches, screw vise, and one set of sample dies.

C and D include pump, countershaft, wrenches, screw vises, and two sets of sample dies.

E includes pump, countershaft, wrenches, screw vises, and three sets of sample dies.

F includes pump, countershaft, wrenches, screw vises, and four sets of sample dies.

Plain or track bolt vises will be substituted for screw vises, if wished.

¹ Price covers patented speed change device and Morse chain drive, but does not include motor. Four changes of speed are provided in the gearing, hence any make of shunt wound constant speed DC or squirrel cage AC motor is satisfactory.

Price includes attaching of motor, if motor is shipped to Tiffin.

NATIONAL (OPEN DIE) BOLT CUTTERS; ALSO LEAD SCREW ATTACHMENTS

Size	Net weight	Price machine only ¹	Price tap chuck only	Price complete with regular equipment	Regular equipment ²	Code word	Lead screw attachment extra ³	Change gears per set	Code word machine with lead screw
$\frac{3}{4}$ " single B. C.....	<i>Pounds</i> 1,275	\$800	\$20	\$900	A	Cutad	Not built		
1" single B. C.....	1,425	875	20	985	B	Cutaf	Not built		
1 $\frac{1}{4}$ " single B. C.....	1,450	890	20	1,010	C	Cutag	\$160	\$14.50	Cutig.
1 $\frac{1}{2}$ " single B. C.....	1,800	900	25	1,070	D	Cutah	185	14.50	Cutik.
2" single B. C.....	2,500	1,125	30	1,415	E	Cutai	215	14.50	Cutin.
2 $\frac{1}{2}$ " single B. C.....	3,800	1,800	30	2,190	F	Cutaj	230	18.00	Cutip.
3" single B. C.....	4,200	2,200	53	2,750	G	Cutak	290	18.00	Cutir.
3 $\frac{1}{2}$ " single B. C.....	4,400	2,325	60	3,060	H	Cutal	315	20.00	Cutis.
4" single B. C.....	4,500	2,350	60	3,675	I	Cutaw	355	20.00	Cutit.
4 $\frac{1}{2}$ " single B. C.....	5,150	2,925	100	3,410	J	Cutax	355	20.00	Cutiv.
5" single B. C.....	5,850	3,350	125	3,950	K	Cuteb	425	20.00	Cutix.
5 $\frac{1}{2}$ " single B. C.....	2,100	1,425	-----	1,550	L	Cutef	315	14.50	Cutob.
6" double B. C.....	2,200	1,575	-----	1,725	M	Cuteg	315	14.50	Cutog.
1" double B. C.....	2,300	1,700	-----	1,865	N	Cuteh	315	14.50	Cutok.
1 $\frac{1}{4}$ " double B. C.....	2,600	1,775	-----	1,985	O	Cutel	350	14.50	Cutol.
1 $\frac{1}{2}$ " double B. C.....	2,600	1,775	-----	2,635	P	Cutem	370	14.50	Cutom.
2" double B. C.....	4,300	2,250	-----	3,235	Q	Cutep	450	18.00	Cutop.
2 $\frac{1}{2}$ " double B. C.....	4,675	2,850	-----	3,235	R	Cutet	480	14.50	Cutos.
3" triple B. C.....	3,000	2,200	-----	2,310	S	Cutew	500	14.50	Cutow.
1" triple B. C.....	3,700	2,575	-----	2,700	T	Cutex	550	14.50	Cutox.
1 $\frac{1}{2}$ " triple B. C.....	5,700	3,300	-----	3,470	U	Cutey	Not built		
1" quadruple B. C.....	4,800	2,975	-----	3,080	V	Cutib	Not built		
1 $\frac{1}{2}$ " quadruple B. C.....	5,000	3,400	-----	3,535	W	Cutif	370	14.50	Cutoz.
1 $\frac{1}{4}$ " doublestay B. C.....	3,700	1,975	-----	2,185					

In ordering always state style of thread wished.

¹ Price machine only includes pump, countershaft, wrenches, but no dies, taps or tap chucks.

² For list of regular equipment see below under regular equipment.

³ The above prices on Lead Screw Attachment include one set of change gears for any one pitch of thread.

⁴ In quoting on lead screw machines which do not have lead screws for all heads, write for special prices.

NATIONAL MACHINERY CO., TIFFIN, OHIO—Continued
MOTOR DRIVE ATTACHMENTS FOR NATIONAL BOLT CUTTERS

Size	Price motor drive attachments, without motor ¹	Number of steps in speed box	Size of motor recommended h. p.	R. p. m. of motor	Code words of motor driven bolt cutters			
					Without lead screw attachment		With lead screw attachment	
					Without motor	With motor included	Without motor	With motor included
1" single.....	\$465	4	1½	1,200	Cumad....	Cumew....	Cumog....	Cumut....
1¼" single.....	500	4	2	1,200	Cumag....	Cumex....	Cumok....	Cumuv....
1½" single.....	515	4	2	1,200	Cumak....	Cumey....	Cumol....	Cumux....
2" single.....	560	4	3	1,200	Cumal....	Cumid....	Cumon....	Cupad....
2½" single.....	600	6	5	1,200	Cuman....	Cumif....	Cumop....	Cupak....
3" single.....	665	6	5	1,200	Cumap....	Cumig....	Cumot....	Cupan....
3½" single.....	710	6	7½	1,200	Cumar....	Cumil....	Cumos....	Cupar....
4" single.....	800	6	7½	1,200	Cumas....	Cumik....	Cumot....	Cupar....
1" double.....	490	4	3	1,200	Cumaw....	Cumil....	Cumow....	Cupas....
1¼" double.....	500	4	3	1,200	Cumax....	Cumin....	Cumox....	Cupat....
1½" double.....	560	4	4	1,200	Cumay....	Cumip....	Cumud....	Cupaw....
2" double.....	600	4	5	1,200	Cumeb....	Cumir....	Cumuf....	Cupax....
2½" double.....	725	6	7½	1,200	Cumef....	Cumis....	Cumug....	Cupay....
1" triple.....	580	4	5	1,200	Cumej....	Cumit....	Cumuk....	Cupaz....
1¼" triple.....	600	4	5	1,200	Cumel....	Cumiv....	Cumul....	Cuped....
1½" triple.....	725	4	7½	1,200	Cumen....	Cumix....	Cumun....	Cupek....
1" quadruple.....	600	4	5	1,200	Cumep....	Cumiz....	Cumup....	Cupen....
1¼" quadruple.....	700	4	7½	1,200	Cumer....	Cumob....	Cumur....	Cuper....
1½" double stay B. C.....	560	4	5	1,200	Cumet....	Cumoe....	Cumus....	Cupet....

¹ These prices are to be added to those of the belt driven bolt cutters.

Prices cover patented speed change device, and Morse chain drive, but do not include motor. Any make of shunt wound constant speed DC motor, or squirrel cage AC motor can be used.

Prices include attaching of motor, if motor is shipped to Tiffin.

REGULAR EQUIPMENT FURNISHED WITH NATIONAL BOLT CUTTERS

The regular equipment furnished with the machines shown on p. — includes pump, countershaft, wrenches, and the following interchangeable dies with hardened steel cases (or plain case dies), taps, tap chuck, etc., as listed below:

- A—6 sets dies; 1 each ¾, ¾, ¾, ¾, ¾, and ¾ inch; 6 nut taps to correspond; and tap chuck.
B—7 sets dies; 1 each ¾, ¾, ¾, ¾, ¾, and 1 inch; 7 nut taps to correspond; and tap chuck.
C—8 sets dies; 1 each ¾, ¾, ¾, ¾, ¾, ¾, 1, 1¼, and 1½ inch; 8 nut taps to correspond; and tap chuck.
D—9 sets dies; 1 each ¾, ¾, ¾, ¾, ¾, ¾, 1, 1¼, 1½, and 1¾ inch; 9 nut taps to correspond; and tap chuck.
E—11 sets dies; 1 each ¾, ¾, ¾, ¾, ¾, 1, 1¼, 1½, 1¾, 1¾, and 2 inch; 11 nut taps to correspond; and tap chuck.
F—13 sets dies; 1 each ¾, ¾, 1, 1¼, 1½, 1¾, 1¾, 1¾, 2, 2¼, and 2½ inch; 13 nut taps to correspond; and tap chuck.
G—13 sets dies; 1 each 1, 1¼, 1½, 1¾, 1¾, 1¾, 1¾, 2, 2¼, 2½, 2¾, and 3 inch; 13 nut taps to correspond; and tap chuck.
H—15 sets dies; 1 each 1, 1¼, 1½, 1¾, 1¾, 1¾, 1¾, 2, 2¼, 2½, 2¾, 3, 3¼, and 3½ inch; 15 nut taps to correspond; and tap chuck.
I—13 sets dies; 1 each 1½, 1¾, 1¾, 1¾, 2, 2¼, 2½, 2¾, 3, 3¼, 3½, 3¾, and 4 inch; 13 nut taps to correspond; and tap chuck.
J—15 sets dies; 1 each 1½, 1¾, 1¾, 1¾, 2, 2¼, 2½, 2¾, 3, 3¼, 3½, 3¾, 4, 4½, and 5 inch; and tap chuck.
K—17 sets dies; 1 each 2, 2¼, 2½, 2¾, 3, 3¼, 3½, 3¾, 4, 4½, 4¾, 5, 5¼, 5½, 5¾, and 6 inch; and tap chuck.
L—10 sets dies; 2 each ¾, ¾, ¾, ¾, and ¾ inch.
M—12 sets dies; 2 each ¾, ¾, ¾, ¾, ¾, and 1 each ¾ and 1 inch.
N—13 sets dies; 2 each ¾, ¾, ¾, ¾, ¾, and 1 each 1, 1¼, and 1½ inch.
O—14 sets dies; 2 each ¾, ¾, ¾, ¾, 1 and 1 each 1¼, 1½, 1¾, and 1½ inch.
P—20 sets dies; 2 each ¾, ¾, ¾, ¾, 1, 1¼, 1½, 1¾, 1¾, and 1 each 1¾, and 2 inch.
Q—20 sets dies; 2 each ¾, ¾, 1, 1¼, 1½, 1¾, 1¾, 2, and 1 each 2¼, and 2½ inch.
R—9 sets dies; 1 each ¾, ¾, ¾, ¾, ¾, and 2 each ¾ and 1 inch.
S—9 sets dies; 1 each ¾, ¾, ¾, ¾, ¾, 1, 1¼, 1½, and 1¾ inch.
T—9 sets dies; 1 each ¾, ¾, 1, 1¼, 1½, 1¾, 1¾, 1¾, and 2 inch.
U—9 sets dies; 1 each ¾, ¾, ¾, ¾, ¾, and 2 each ¾, and 1 inch.
V—9 sets dies; 1 each ¾, ¾, ¾, ¾, ¾, 1, 1¼, 1½, and 1¾ inch.
W—14 sets dies of any size within the capacity of the machine.

NATIONAL DIE SHARPENER

Size die sharpener	Net weight	Price belt drive with regular equipment ¹	Price motor drive with regular equipment ²	Size of motor	Code word belt drive	Code word motor drive
No. 1.....	Pounds 250	\$525	\$600	Horsepower ¾	Sharm.....	Elarm.....
No. 2.....	275	635	785	¾	Sharx.....	Elarx.....

¹ The regular equipment includes countershaft, and one grinding wheel.

² Price motor drive includes motor platform and motor, either DC or AC, any voltage.

NATIONAL MACHINERY CO., TIFFIN, OHIO—Continued
NATIONAL VERTICAL ROLL THREAD MACHINES

Size machine	Net weight	Price belt drive with regular equipment ¹	Price motor drive with regular equipment ²	Size of motor	R. p. m. of motor	Code word belt drive	Code word motor drive
1".....	Pounds 19,000	\$6,825	\$7,500	Horse-power 10	900	Rolew.....	Ellew.....
1¼".....	25,000	9,100	9,800	15	900	Rolex.....	Ellex.....

¹ The regular equipment includes friction-slip flywheel, pump, countershaft, wrenches, and one sample set of dies.

² Price for motor drive includes cut steel gear and silent motor pinion, mounting, etc., but does not include the motor.

Squirrel cage AC motors are satisfactory, but if motor is DC it should be compound wound.

NATIONAL CENTER FEED HOT PRESSED NUT MACHINES

Size machine	Net weight	Price belt drive with regular equipment ¹	Price motor drive with regular equipment ²	Size of motor	R. p. m. of motor	Code word belt drive	Code word motor drive
1".....	Pounds 15,000	\$7,900	\$8,500	Horse-power 10	900	Nutab.....	Eltab.....
1¼".....	24,000	11,000	11,650	15	900	Nutan.....	Eltan.....
2".....	36,000	15,250	16,000	20	720	Nutar.....	Eltar.....

¹ The regular equipment includes friction-slip flywheel, wrenches and one size of sample dies.

² Price for motor drive includes cut steel gear and silent motor pinion, mounting, etc., but does not include the motor.

Squirrel cage AC motors are satisfactory, but if motor is DC it should be compound wound.

NATIONAL SEMIAUTOMATIC NUT BURNING MACHINES

Size machine	Net weight	Price belt drive with regular equipment ¹	Price motor drive with regular equipment ²	Size of motor	R. p. m. of motor	Code word belt drive	Code word motor drive
¾".....	Pounds 2,000	\$2,300	\$2,500	Horse-power 2	1,200	Buran.....	Elran.....
1¼".....	2,900	2,400	2,650	3	1,200	Burap.....	Elrap.....
2".....	3,300	2,650	2,800	5	1,200	Burax.....	Elrax.....

¹ The regular equipment includes countershaft, wrenches, and tools as follows: For ¾" machine, all tools to burn all sizes of nuts from ¾" to ¾" U. S. Standard, square and hexagonal.

For 1¼" machine, all tools for ¾" to 1¼" U. S. Standard, square and hexagonal.

For 2" machine, all tools for 1" to 2" U. S. Standard, square and hexagonal.

² Price for motor drive includes cut gear and silent motor pinion, mounting, etc., but does not include the motor. Motors should be 2 to 1 variable speed.

NATIONAL NUTTING BENCHES (Belt Drive Only)

Size spindle machine	Net weight	Price with regular equipment ¹	Code word
2".....	Pounds 900	\$525	Benir.....
4".....	1,600	735	Benit.....
6".....	2,250	990	Benix.....

¹ The regular equipment includes countershaft, wrenches, and one sample nut holder and plate for each spindle.

NATIONAL MACHINERY CO., TIFFIN, OHIO—Continued

NATIONAL AUTOMATIC PRECISION NUT TAPPERS

Size	Net weight	Price with regular equipment ¹	Extra tools for other size nuts	Code word
	<i>Pounds</i>		<i>Per set</i>	
1/4"	1,800	\$2,650	\$140	Preta.
3/8"	2,250	2,850	155	Pretl.
1/2"	2,850	3,100	175	Preto.
3/4"	4,875	3,850	230	Pretu.

¹ The regular equipment includes motor and complete electrical control, pump, wrenches, and tools for any one size of nut.

NATIONAL AUTOMATIC (BENT TAP) NUT TAPPERS

Size machine	Net weight	Price with regular equipment ¹	Extra for motor drive ²	Extra tools for other size nuts, per set	Size of motor	R. p. m. of motor	Code word belt drive	Code word motor drive
	<i>Pounds</i>				<i>Horsepower</i>			
1/4"	160	\$775	\$75	\$85	3/4	1,800	Tapat...	Elpat.
3/8"	550	1,125	95	100	3/4	1,200	Tapav...	Elpav.
1/2"	550	1,125	110	100	3/4	1,200	Tapaw...	Elpaw.
3/4"	850	1,275	160	110	3/4	1,200	Tapax...	Elpax.
1"	1,250	1,450	190	125	3/4	1,200	Taped...	Elped.
1 1/4"	1,880	1,850	225	185	1	1,200	Tapeg...	Elpeg.
1 1/2"	4,000	2,375	240	225	1 1/2	1,200	Tapex...	Elpex.

¹ The regular equipment includes machine complete with pump, wrenches, and tooled for any one size of nut.

² Includes mounting of the motor, if sent to us, but does not include the motor.

NATIONAL NUT TAPPERS (FOOT TREADLE TYPE AND SEMIAUTOMATIC)

Size	Net weight	Price machine only ¹	Price socket with regular equipment ²	Price complete with regular equipment	Extra for motor drive ³	Regular equipment	Code word	Size of motor	R. p. m. of motor	Code word motor drive
	<i>Pounds</i>							<i>Horsepower</i>		
3/4" 6 sp. treadle type.	1,500	\$1,150	\$129	\$1,275	Not built	A	Tapel...			
1" 8 sp. semiautomatic.	5,000	3,110	172	3,275	\$900	B	Tapen...	7 1/2	900	Elpen.
1 1/2" 10 sp. same.	9,800	5,730	270	6,000	1,050	C	Tapet...	10	900	Elpet.
2" 6 sp. same.	7,600	5,425	177	5,600	1,050	D	Tapew...	10	600	Elpew.
2" 12 sp. same.	12,000	8,400	354	8,750	1,150	E	Tapex...	20	600	Elpex.

¹ Price "machine only" includes pump, countershaft and wrenches, but no sockets or taps.

Regular equipments A to E include pump, countershaft, wrenches, and interchangeable ring lock sockets and taper taps as follows:

- A—6 sockets and 6 taps; 1 each 1/4, 3/8, 1/2, 3/4, 1" and 1 1/4 inch.
 B—8 sockets and 8 taps; 1 each 1/2 and 3/4 and 2 each 3/8, 1/2 and 1 inch.
 C—10 sockets and 10 taps; 2 each 3/8, 1, 1 1/4, 1 1/2 and 1 3/4 inch.
 D—6 sockets and 6 taps; 1 each 1, 1 1/4, 1 1/2, 1 3/4 and 2 inch.
 E—12 sockets and 12 taps; 2 each 1, 1 1/4, 1 1/2, 1 3/4 and 2 inch.

NATIONAL WASHER MACHINES

Size machine	Net weight	Price with regular equipment ¹	Code word
	<i>Pounds</i>		
1"	4,400	\$2,200	Wasen.
1 1/2"	9,800	3,900	Waset.
2"	13,000	5,450	Wases.

¹ The regular equipment includes countershaft, wrenches, and one size of sample dies.

NATIONAL MACHINERY CO., TIFFIN, OHIO—Continued

NATIONAL VERTICAL SHEARS

Size	Net weight	Price, belt drive with regular equipment ¹	Price, motor drive with regular equipment ²	Size of motor	R. p. m. of motor	Code word belt drive	Code word motor drive
	<i>Pounds</i>			<i>Horsepower</i>			
3/4" machine.	1,400	\$975	\$1,400	3	720	Sheak....	Eleaf.
1" machine.	4,000	1,575	2,100	5	900	Shean....	Eleaf.
1 1/4" machine.	6,800	2,800	3,350	10	1,200	Sheap....	Eleaf.
1 1/2" machine with clutch. ³	7,000	3,550	4,100	10	1,200	Sheax....	Eleaf.

¹ The regular equipment for the 3/4- and 1 1/4-inch machines includes wrenches, one set of knives and three bushes for any three sizes of bars; and for the 1-inch machine wrenches, one set of knives and four bushes for any four sizes of bars.

² Includes driving gears, guard, silent motor pinion, mounting, etc., but does not include motor.

³ The 1 1/4-inch machine with clutch is provided with foot-lever-operated clutch so that 1 or more strokes may be had, as wished.

NATIONAL WIRE NAIL MACHINES

Size	Net weight	Price with regular equipment ¹	Code word
	<i>Pounds</i>		
No. 5 or 2d	900	\$1,025	Winal.
No. 4 or 4d	1,650	1,350	Winam.
No. 3 or 6d	2,500	1,550	Winap.
No. 2 or 10d	3,500	1,850	Winar.
No. 1 1/2 or 30d	9,150	3,875	Winat.
No. 0	16,500	5,950	Winaw.
No. 00	20,000	7,175	Winax.

¹ The regular equipment includes wrenches, and one sample set of dies.

THE NEBEL MACHINE TOOL COMPANY, CINCINNATI, OHIO

(Formerly the Rahn Larmon Co.)

ENGINE LATHES

Size	Center distance	Weight for geared head	Price geared head	Weight cone head	Price cone head
	<i>Inches</i>	<i>Pounds</i>		<i>Pounds</i>	
16 inches	30	3,100	\$2,050	2,500	\$1,325
18 inches	30	3,200	2,110	2,600	1,385
Additional for 2 feet of bed		200	80	200	80
18 inches	26	4,000	3,200	3,100	2,000
20 inches	26	4,100	3,275	3,200	2,075
Additional for 2 feet of bed		300	100	300	100
20 inches	45	4,900	4,025	4,300	2,500
22 inches	45	5,000	4,110	4,400	2,585
Additional for 2 feet of bed		400	120	400	120
24 inches	60	7,200	5,300	6,700	3,650
26 inches	60	7,500	5,425	7,000	3,775
Additional for 2 feet of bed		450	135	450	135
26 inches	57	9,200	6,125	7,800	4,125
25 inches	57	9,500	6,260	8,100	4,260
27 inches	57	500	150	500	150
Additional for 2 feet of bed		10,000	6,950	9,000	5,120
30 inches	50	10,500	7,100	9,500	5,270
32 inches	50	11,500	7,330	10,000	5,500
36 inches	50	700	200	700	200
Additional for 2 feet of bed					

THE NEBEL MACHINE TOOL COMPANY, CINCINNATI, OHIO—Continued

REMOVABLE BLOCK GAP LATHES

Size	Center distance	Weight for geared head	Price geared head	Weight cone head	Price cone head
Inches		Pounds		Pounds	
1 1/4 inches	30	3,200	\$2,225	2,600	\$1,500
1 1/2 inches	30	3,300	2,285	2,700	1,560
Additional for 2 feet of bed		200	80	200	80
1 3/4 inches	26	3,800	3,475	3,300	2,275
Additional for 2 feet of bed		300	100	300	100
2 inches	45	5,100	4,410	4,500	3,185
Additional for 2 feet of bed		400	120	400	120
2 1/4 inches	60	7,800	5,775	7,000	4,125
Additional for 2 feet of bed		450	135	450	135

EXTENSION BED GAP LATHES

Size	Feet	Inches	Weight	Price	Weight	Price
			Pounds		Pounds	
1 1/4 inches, gap closed	2	3	5,100	\$4,850	4,700	\$3,350
1 1/2 inches, gap open	4	3	5,200	5,000	4,800	3,500
Additional for 2 feet of bed			425	175	425	175
1 3/4 inches, gap closed	4	3	11,000	7,100	9,500	5,000
1 1/2 inches, gap open	7	9	11,500	7,300	10,000	5,200
Additional for 2 feet of bed			750	220	750	220

NEW ALBANY MACHINE MANUFACTURING COMPANY, NEW ALBANY, IND.

ROBINSON INCLINABLE PRESSES

Press No.	0	1	1 1/4	2	3	4	5	5 1/4
Diameter crank shaft at bearing.....inches..	1 1/4	2	2 1/4	3	3 1/4	4	4 1/2	5
Capacity at bottom of stroke.....tons..	5	14	24	31	43	56	71	88
Standard stroke of slide.....inches..	1	1 1/4	2	2	2	3	3	3
Maximum stroke of slide.....do.....	2	2 1/4	3	3	3	5	5	5
Approximate weight (fly wheel press).....pounds..	290	1,050	1,800	2,700	4,450	5,800	9,000	9,750
Diameter and face fly wheel (fly wheel press).....inches..	15 x 2 1/2	23 x 3 3/4	28 x 4 1/4	30 x 5 1/4	36 x 5 1/4	36 x 6	45 x 6	45 x 7
Weight of fly wheel (fly wheel press).....pounds..	65	200	375	575	750	900	1,200	1,400
Capacity and speed of motor (fly wheel press) (hp. and r.p.m.).....	1/2-900	1-900	1 1/4-900	2-900	3-900	5-900	7 1/2-900	7 1/2-900
Price, fly wheel press.....	\$152	\$265	\$380	\$531	\$852	\$1,012	\$1,645	\$1,771
Price, single geared press.....			633	784	1,169	1,328	2,024	2,151
Price, combined geared press.....			759	911	1,296	1,454	2,151	2,277
Extra for stay rods.....				11	11	22	22	22
Extra V-belt motor drive.....	27	66	71	71	82	82	110	110
Extra for table and legs, No. 0 press.....	22							
Extra for arranging No. 0 bench type press for foot treadle.....	5							

Change in stroke above maximum \$11 per inch, extra.

NEW ALBANY MACHINE MANUFACTURING COMPANY, NEW ALBANY, IND.—Continued

ROBINSON HORN PRESSES

Press No.	16	17	19	20	22	22 1/4
Diameter crank shaft at bearing.....inches..	2	2 1/4	3	3 1/4	4 1/2	5
Capacity at bottom of stroke.....tons..	14	24	31	43	71	88
Standard stroke.....inches..	1 1/4	1 1/4	2	2	3	3
Maximum stroke.....do.....	2 1/4	3	3 1/4	3 1/4	5	5
Approximate weight (fly wheel press).....pounds..	1,750	3,000	4,000	6,000	10,000	12,000
Diameter and face fly wheel (fly wheel press).....inches..	23 x 3 3/4	28 x 4 1/4	30 x 5 1/4	36 x 5 1/4	45 x 6	45 x 7
Weight of fly wheel (fly wheel press).....pounds..	290	375	575	750	1,200	1,400
Price, fly wheel press.....	\$315	\$632	\$784	\$1,012	\$1,897	\$2,024
Price, single geared press.....			1,037	1,328	2,277	2,403
Price, combined geared press.....			1,164	1,454	2,403	2,530
Extra adjustable table.....	66	82	110	165	275	330
Extra swinging table.....	77	110	165	220	330	330
Extra V-belt motor drive.....	66	71	71	82	110	110
Extra, geared motor drive.....	82	82	82	82	110	110

Geared motor drive prices include motor bracket, motor pinion and gear guards, but does not include motor or electrical equipment.
 V-belt motor drive prices include motor bracket, V-belt and motor pulley, but does not include belt guard or electrical equipment.
 Change in stroke above maximum, \$11 per inch, extra.

NEWARK GEAR CUTTING MACHINE CO., NEWARK, N. J.

GEAR HOBBS—PRICES AND SPECIFICATIONS

Style No.	Diameter capacity	Face capacity	Pitch capacity	Weight	Price
3 plain.....	With support arm, 18"	14" on spur gears.....		Pounds 6,000	\$4,510
3 universal.....	With support arm, 18"	12" on helical gears up to above 30° helix.		6,000	5,060
5.....	With column support, 32"; without column support, 72".		2 1/4 D. P. in steel, 2 D. P. in grey iron.	20,000	14,400

SPUR GEAR CUTTER—PRICES AND SPECIFICATIONS

Style No.	Diameter capacity	Face capacity	Pitch capacity	Weight	Price
3	40"	10"	4 D. P. in steel, 3 D. P. in cast iron; 3/4" C. P. in steel, 1" C. P. in cast iron.	Pounds 3,800	\$4,000
55	48"	16"	2 D. P. in steel, 1 1/2 D. P. in cast iron; 1 1/4" C. P. in steel, 2" C. P. in cast iron.	8,300	6,050
5	72"	16"	2 D. P. in steel, 1 1/2 D. P. in cast iron; 1 1/4" C. P. in steel, 2" C. P. in cast iron.	8,700	6,710
7	100"	24"	1 D. P. in steel, 3/4 D. P. in cast iron; 3" C. P. in steel, 4" C. P. in cast iron.	21,000	13,300
				Weight	Price
				Pounds	
No. 1 gear tester.....				975	\$660
No. 0 cutter grinder.....				925	800

NEW BRITAIN-GRIDLEY MACH. DIVISION, THE NEW BRITAIN
MACHINE CO., NEW BRITAIN, CONN.

WORK ROTATING AUTOMATIC CHUCKING MACHINES

Model No.	No. of spindles	Swing	Chuck size	Price
		Inches	Inches	
38.....	1	10½	10½	\$7,250
49.....	4	8½	9	14,250
23A.....	4	6	5	12,500
412.....	4	12	12	17,500
65.....	6	5½	5½	13,950
665.....	6	6½	6½	14,250
675.....	6	7½	7½	14,900
16.....	6	9½	9	14,950
86.....	8	6½	6½	16,500

AUTOMATIC SCREW MACHINES

Model No.	No. of spindles	Size	Price
		Inches	
60.....	6	1	\$10,500
61.....	6	1½	12,750
61.....	6	2½	14,900

MACHINES LISTED BELOW ARE OBSOLETE

[Amounts shown are to be used as equivalent]

CHUCKING MACHINES

Model No.	Number of spindles	Maxi- mum swing	Amount to be used as equivalent
12A.....	3.....	5½"	\$6,200
22.....	4.....	4½"	7,500
23.....	4.....	5½"	8,500
24.....	4.....	7½"	10,500
33.....	5.....	5½"	9,500
34.....	5.....	7½"	12,000
452.....	4.....	6"	9,000
454.....	4.....	8"	12,500
652.....	6.....	4½"	13,950
654.....	6.....	5½"	14,200
3-254.....	6.....	3"	13,450
53.....	Double end—three on side.....	4½"	11,500
54.....	do.....	7½"	13,000

BAR MACHINES

Model No.	Description	Size	Price
172.....	6 (for threading).....	1 x 5	\$11,500
263.....	6 (without threading).....	1 x 5	11,000
204.....	6.....	½ x 3½	7,875
206.....	6 (for threading).....	1½ x 7	12,000
264.....	6 (without threading).....	1½ x 7	11,500
226.....	6.....	1"	9,025
227.....	6.....	1½	12,000
527.....	6.....	1½	13,000
270.....	6 (without threading).....	2½	15,200
208.....	6 (with threading).....	2½	15,700
41.....	4.....	1½	9,450
41.....	4.....	1½	9,450

NIAGARA MACHINE & TOOL CO., BUFFALO, N. Y.

NIAGARA HEAVY SLIP ROLL FORMING MACHINES

No.	Capacity	Weight	Price
		Pounds	
415-5" x 36".....	7½" 3½"	2,700	\$1,176
416-5" x 48".....	9½" 10 gage.....	2,900	1,246
417-5" x 60".....	9½" 12 gage.....	3,200	1,315
418-5" x 72".....	11, 14 gage.....	4,000	1,385
419-5" x 96".....	14, 16 gage.....	4,500	1,524
420-5" x 120".....	16, 18 gage.....	4,900	1,663
425-6" x 48".....	9½" 14"	6,100	2,160
426-6" x 60".....	9½" 14"	6,550	2,262
426-6" x 72".....	9½" 14"	7,000	2,364
426-6" x 96".....	9½" 14"	7,900	2,568
429-6" x 120".....	9½" 14"	8,800	2,772
430-7½" x 60".....	9½" 14"	8,700	3,072
431-7½" x 72".....	9½" 14"	9,400	3,198
432-7½" x 96".....	9½" 14"	10,800	3,450
433-7½" x 120".....	9½" 14"	12,200	3,702

NIAGARA POWER SQUARING SHEARS—SERIES NO. L

No.	Capacity	Length	Weight	Price
	Inch	Inches	Pounds	
L8.....	½	96	28,000	\$7,160
L12.....	½	126	32,000	7,600
L10½.....	½	144	36,000	8,100
L12.....	¾	168	44,000	8,800
L14.....	¾	192	49,000	9,850
L16.....	¾	216	55,000	10,800
L18.....	¾			

NIAGARA POWER GANG PUNCHES

No.	Type	Weight	Price
		Pounds	
4.....	Not geared.....	2,300	\$974
4.....	Geared.....	2,600	1,095
6-B.....	Not geared.....	4,500	1,343
6-B.....	Geared.....	5,000	1,555
6-C.....	Not geared.....	4,800	1,446
6-C.....	Geared.....	5,500	1,537

NIAGARA PRESS BRAKES

Model No.	Type	Weight	Price
		Pounds	
175-C.....	Single geared.....	3,400	\$1,506
175-E.....	do.....	4,700	1,906

NIAGARA POWER SQUARING SHEARS
SERIES NO. 100-200 GEARED

No.	Capacity	Length	Weight	Price
		Inches	Pounds	
260 geared.....	14 gage.....	60	3,300	\$1,205
272 geared.....	14 gage.....	72	3,600	1,260
196 geared.....	16 gage.....	96	4,200	1,360
1120 geared.....	16 gage.....	120	4,800	1,480
136 geared.....	14 gage.....	36	1,600	580
148 geared.....	14 gage.....	48	1,750	625
160 geared.....	16 gage.....	60	2,150	680
172 geared.....	16 gage.....	72		745

SERIES NO. 100

Model No.	Capacity	Length	Weight	Price
		Inches	Pounds	
136.....	16 gage.....	36	1,450	\$485
148.....	16 gage.....	48	1,600	530
160.....	18 gage.....	60	1,800	585
172.....	18 gage.....	72	2,000	650

NIAGARA MACHINE & TOOL CO., BUFFALO, N. Y.—Continued
NIAGARA POWER SQUARING SHEARS—Continued

SERIES No. O

No.	Capacity	Length	Weight	Price
		Inches	Pounds	
02½	22 gage	30	750	\$265
03	20 gage	36	800	285
03½	22 gage	42	900	310

[The following series shears were discontinued during the emergency. Prices given were the last in effect]

SERIES No. 300-L

336-L	10 gage	36	3,400	\$1,050
342-L	10 gage	42	3,600	1,083
352-L	10 gage	52	4,000	1,122
362-L	10 gage	62	4,500	1,171
372-L	10 gage	72	5,000	1,237

SERIES No. 600-L

636-L	10 gage	36	4,200	\$1,116
642-L	10 gage	42	4,400	1,150
652-L	10 gage	52	4,800	1,366
662-L	10 gage	62	5,300	1,237
672-L	10 gage	72	5,800	1,498

SERIES No. 300

336	¾"	36	3,400	\$1,188
342	¾"	42	3,600	1,221
352	¾"	52	4,000	1,250
362	¾"	62	4,500	1,309
372	¾"	72	5,000	1,375

SERIES No. 600

636	¾"	36	4,200	\$1,254
642	¾"	42	4,400	1,287
652	¾"	52	4,800	1,325
662	¾"	62	5,300	1,375
672	¾"	72	5,800	1,441

SERIES No. 4

44	12 gage	48	4,900	\$2,200
46	12 gage	72	5,500	2,300
48	14 gage	96	6,500	2,450
410	14 gage	120	7,500	2,650
412	16 gage	144	8,500	2,900

SERIES No. B-BL

B-4	¾"	72	6,500	\$1,995
BL-6	10 gage	72	6,500	1,995
BL-8	10 gage	96	7,500	2,130
BL-10	10 gage	120	9,000	2,330
BL-12	12 gage	144	11,000	2,660

SERIES No. 7

76	1½"	72	12,000	\$3,550
78	¾"	96	14,000	3,650
710	¾"	120	16,800	4,050
712	10 gage	144	19,500	4,500

NIAGARA MACHINE & TOOL CO., BUFFALO, N. Y.—Continued
NIAGARA POWER SQUARING SHEARS

SERIES No. H-HL

No.	Capacity	Length	Weight	Price
		Inches	Pounds	
H-6	¾"	72	9,000	\$3,000
HL-8	10 gage	96	10,000	3,190
HL-10	10 gage	120	12,000	3,485
HL-12	10 gage	144	14,500	3,885
HL-14	12 gage	168	19,000	4,390

SERIES No. I-IL

I-4	¾"	48	11,000	\$3,300
I-6	¾"	72	13,000	3,430
IL-8	¾"	96	14,500	3,560
IL-10	¾"	120	17,000	3,910
IL-12	¾"	144	19,500	4,340
IL-13	10 gage	156	21,000	4,650
IL-14	10 gage	168	24,000	4,900

SERIES No. J-JL

No.	Capacity	Length	Weight	Price
		Inches	Pounds	
J-6	¾"	72	16,000	\$4,000
JL-8	¾"	96	18,000	4,150
JL-10	¾"	120	21,000	4,500
JL-12	¾"	144	24,000	5,100
JL-13	¾"	156	25,500	5,400
JL-14	¾"	168	29,000	5,800
JL-16	10 gage	192	34,000	6,700

SERIES No. K-KL

K-6	1½"	72	20,500	\$4,900
KL-8	¾"	96	24,000	5,200
KL-10	¾"	120	27,000	5,565
KL-12	¾"	144	31,000	6,125
KL-14	¾"	168	40,000	7,080
KL-16	¾"	192	44,500	7,850
KL-18	¾"	216	50,000	8,810

NIAGARA INCLINABLE POWER PRESSES, SERIES NO. 1

[The following series of presses was discontinued during the emergency. Prices given were the last in effect]

No.	Type	Weight	Price
		Pounds	
3-B	Not geared	1,500	\$353
4	Not geared	1,900	462
4	Geared	2,100	632
4½	Not geared	2,300	495
4½	Geared	2,500	665
5	Not geared	3,200	649
5	Geared	3,500	841
5½	Not geared	3,800	704
5½	Geared	4,000	896
6	Not geared	4,800	1,386
7-B	Not geared	9,300	1,666
7-B	Geared	11,000	1,820
7, Not inclinable	Not geared	11,500	2,079
7, Not inclinable	Geared	11,000	1,925
7, inclinable	Not geared	11,500	2,183
7, inclinable	Geared	11,500	2,183

NIAGARA MACHINE & TOOL CO., BUFFALO, N. Y.—Continued

NIAGARA INCLINABLE POWER PRESSES, SERIES "A"

No.	Type	Weight Pounds	Price
A-1 1/4	Not geared	500	\$220
A-1 1/2	do	750	265
A-1 3/4	do	1,100	335
A-1 3/4	Geared	1,200	455
A-2	Not geared	1,500	420
A-2	Geared	1,650	555
A-2 1/4	Not geared	2,100	650
A-2 1/4	Geared	2,300	850
A-2 1/2	Not geared	3,000	730
A-2 1/2	Geared	4,400	765
A-3	Not geared	4,700	995
A-3	Geared	6,200	990
A-3 1/2	Not geared	6,600	1,265
A-3 1/2	Geared	5,100	1,105
A-3 1/2	Not geared steel casting frame	5,500	1,380
A-3 1/2	Geared steel casting frame	8,800	1,660
A-4	Not geared steel casting frame	9,300	2,000
A-4	Geared steel casting frame	11,700	2,295
A-4 1/2	Not geared steel casting frame	12,500	2,705
A-4 1/2	Geared steel casting frame	17,000	3,570
A-5	do	22,500	4,470
A-5 1/2	do	34,000	6,355
A-6 1/2	do		

NIAGARA DOUBLE CRANK PRESSES—SERIES NO. 60

65-B	Not geared	4,800	\$1,615
65-B	Single geared	5,400	1,845
65-BX	Not geared	5,200	1,712
65-BX	Single geared	5,800	1,942
65-C	Not geared	5,600	1,754
65-C	Single geared	6,200	1,984
65-D	Not geared	6,500	1,803
65-D	Single geared	7,100	2,033
65-E	Not geared	7,500	1,936
65-E	Single geared	8,100	2,166
65-E	Not geared	8,500	1,809
65-B	Single geared	6,100	2,039
65-BX	Not geared	5,900	2,130
65-BX	Single geared	6,500	2,360
65-C	Not geared	6,300	1,948
65-C	Single geared	6,900	2,178
65-D	Not geared	7,200	1,990
65-D	Single geared	7,800	2,220
65-E	Not geared	8,200	2,123
65-E	Single geared	8,800	2,353
66-B	Not geared	7,600	1,894
66-B	Single geared	8,200	2,124
66-B	Not geared	8,100	1,984
66-BX	Single geared	9,000	2,251
66-BX	Not geared	8,800	2,057
66-C	Single geared	9,700	2,323
66-C	Not geared	9,500	2,293
66-D	Single geared	10,300	2,559
66-D	Not geared	11,400	2,505
66-E	Single geared	12,300	2,771
66-E	Not geared	14,000	3,043
66-F	do	8,400	2,053
66-B	Single geared	9,800	2,299
66-BX	Not geared	8,900	2,160
66-BX	Single geared	9,800	2,426
66-C	Not geared	9,600	2,226
66-C	Single geared	10,500	2,493
66-D	Not geared	10,700	2,353
66-D	Single geared	11,600	2,620
66-E	Not geared	12,200	2,535
66-E	Single geared	13,100	2,801
66-F	do	14,800	3,007
66-F	Not geared	10,300	2,511
67-B	Single geared	11,500	2,812
67-B	Not geared	10,900	2,601
67-BX	Single geared	12,100	2,904
67-BX	Not geared	11,500	2,692
67-C	Single geared	12,700	2,995
67-C	Not geared	12,900	2,952
67-D	Single geared	14,100	3,255
67-D	Not geared	14,400	3,243
67-E	Single geared	15,600	3,545
67-E	Not geared	17,200	3,890
67-F	do	11,300	2,747
67-B	Not geared		

NIAGARA MACHINE & TOOL CO., BUFFALO, N. Y.—Continued

NIAGARA DOUBLE CRANK PRESSES—SERIES NO. 60—Continued

No.	Type	Weight Pounds	Price
67-B	Single geared	12,500	\$3,049
67-BX	Not geared	11,900	2,843
67-BX	Single geared	13,100	3,146
67-C	Not geared	12,500	2,922
67-C	Single geared	13,700	3,225
67-D	Not geared	13,900	3,085
67-D	Single geared	15,100	3,388
67-E	Not geared	15,400	3,364
67-E	Single geared	16,600	3,666
67-F	do	18,200	4,017
67-F	Not geared	13,000	3,037
67 1/2-B	Single geared	14,500	3,340
67 1/2-B	Not geared	13,800	3,158
67 1/2-BX	Single geared	15,300	3,461
67 1/2-BX	Not geared	14,500	3,279
67 1/2-C	Single geared	16,000	3,582
67 1/2-C	Not geared	16,000	3,582
67 1/2-D	Single geared	17,500	3,890
67 1/2-D	Not geared	19,200	4,193
67 1/2-E	Single geared	21,000	4,568
67 1/2-E	Not geared	17,500	3,255
68-B	Single geared	19,500	3,588
68-B	Not geared	18,400	3,394
68-BX	Single geared	20,400	3,727
68-BX	Not geared	19,500	3,527
68-C	Single geared	21,500	3,860
68-C	Not geared	22,500	4,283
68-D	Double geared	21,800	3,854
68-D	Not geared	23,800	4,187
68-D	Single geared	24,800	4,610
68-E	Double geared	24,200	4,217
68-E	Not geared	26,200	4,550
68-E	Single geared	27,200	4,973
68-F	Double geared	29,000	5,046
68-F	Single geared	30,000	5,469
68-F	Double geared	32,000	5,475
68-G	Single geared	33,000	5,899
68-G	Double geared	26,000	4,671
68-H	Single geared	27,400	4,900
68-B	do	29,000	5,118
68-BX	do	30,500	5,572
69-C	Double geared	32,200	5,632
69-C	Single geared	33,700	6,086
69-D	Double geared	36,100	6,201
69-D	Single geared	37,600	6,655
69-E	Double geared	40,300	6,842
69-E	Single geared	41,800	7,296
69-F	Double geared	45,100	7,484
69-F	Single geared	46,600	7,938
69-G	Double geared	50,500	8,077
69-G	Single geared	52,000	8,530
69-H	Double geared	56,500	8,706
69-H	Single geared	58,000	9,160
69-I	Double geared	63,000	9,281
69-I	Single geared	64,500	9,734
69-J	Double geared	21,500	4,961
69-J	Single geared	22,500	5,191
69-BX	do	23,500	5,536
69-C	do	25,500	5,741
69-D	do	28,500	6,147
69-E	do	31,500	6,945
69-F	do	34,500	7,441
69-G	do	38,000	8,204
69-H	do	42,000	8,936
69-I	do	49,000	10,237
69-J	do	55,800	11,657
610-BX	do	37,800	6,141
610-BX	Double geared	37,800	5,923
610-C	Single geared	39,800	6,407
610-C	Double geared	42,000	6,492
610-D	Single geared	44,000	6,976
610-D	Double geared	46,500	7,048
610-E	Single geared	49,500	7,532
610-E	Double geared	51,500	7,581
610-F	Single geared	53,500	8,065
610-F	Double geared	56,000	8,863
610-G	do	59,000	9,589
610-H	do	72,000	10,364
610-I	do	49,500	7,502
612-C	Single geared	52,000	8,046
612-C	Double geared	55,500	8,034
612-D	Single geared		

NIAGARA MACHINE & TOOL CO., BUFFALO, N. Y.—Continued
NIAGARA DOUBLE CRANK PRESSES—SERIES NO. 60—Continued

No.	Type	Weight	Price
		<i>Pounds</i>	
612-D	Double geared	58,000	\$88,579
612-E	Single geared	61,500	8,573
612-F	Double geared	64,000	9,117
612-G	Single geared	68,000	9,262
612-H	Double geared	70,500	9,807
612-I	Single geared	76,000	9,952
612-J	Double geared	79,000	10,497
612-K	do.	87,500	11,326
612-L	do.	97,000	11,943
615-D	do.	75,000	11,174
615-E	do.	80,000	12,094
615-F	do.	89,000	13,165
615-G	do.	98,000	14,387
615-H	do.	108,000	15,458
615-I	do.	119,000	16,674
615-J	do.	131,000	18,065
615-K	do.	147,000	19,136
620-D	Twin drive double geared	92,000	14,236
620-E	do.	101,000	15,155
620-F	do.	110,000	16,377
620-G	do.	120,000	17,605
620-H	do.	132,000	18,838
620-I	do.	144,000	20,207
620-J	do.	157,000	21,429
620-K	do.	170,000	22,657
625-E	do.	123,000	17,448
625-F	do.	135,000	18,676
625-G	do.	148,000	20,207
625-H	do.	163,000	21,738
625-I	do.	180,000	23,571
625-J	do.	198,000	25,410
625-K	do.	218,000	27,249

NIAGARA SINGLE CRANK PRESSES
SERIES No. 50

54	Not geared	2,600	\$986
54	Single geared	3,100	1,174
55	Not geared	3,900	1,307
55	Single geared	4,500	1,519
56	Not geared	5,700	1,682
56	Single geared	6,400	1,924
57	Not geared	8,200	2,130
57	Single geared	9,200	2,396
57 1/2	Not geared	10,400	2,450
57 1/2	Single geared	11,600	2,753
58	Not geared	16,300	3,152
58	Single geared	18,000	3,485
58	Double geared	19,500	3,908
59	Single geared	26,000	4,404
59	Double geared	28,000	4,979
59	Double geared	32,500	5,354
510	Single geared	36,000	5,959
510	Double geared	46,000	7,151
512	Single geared	51,000	7,817
512	Double geared	55,000	8,511
515	Single geared	75,000	11,132
515	Double geared	78,000	11,676
520	Twin drive, double geared	92,000	13,552
525	Twin drive, double geared	117,000	16,008
530	Twin drive, double geared	145,000	18,452
535	Twin drive, double geared	176,000	21,659

SERIES No. 150

155	Single geared	5,000	\$1,767
156	Single geared	6,500	2,238

W. H. NICHOLS & SONS, WALTHAM, MASS.

Nichols Hand Milling Machine

SPECIFICATIONS	
Table working surface	6 1/2" x 21"
Table T slot, 1/4" standard measures	1 1/4"
Table travel, longitudinal, maximum	10"
Table travel, longitudinal, per setting of lever	6.
Table travel, transverse	7.
Table travel, vertical	13 1/2"
Vertical movement of head	4 1/2"
Spindle, hardened and ground, taper 3 1/2" to foot	No. 40 MMS.
Spindle Bearings	Timken precision roller.
Spindle speeds, 4, through dual V belts with sheaves (standard)	100, 200, 600, 1,200 r. p. m.
Weight of machine, regular equipment (approximate net pounds)	1,150.

Base price Nichols hand milling machine with regular equipment including 1/4 hp. master geared head motor with drum reversing switch wired; machine light; coolant pots depth stop for head; graduated feed dials; micrometer table stops; set of wrenches; one hardened holder for 1/2" straight shank cutters; draw-in bolt; belt guard; one hardened arbor (either 1/4" or 1" diameter), \$1,000.

ADDITIONAL EQUIPMENT

Addition of graduated feed screw to table	\$27.50
Motor driven coolant pump (1/4 hp.) with piping and switch	77.00
Universal vertical milling attachment with No. 7 B. & S. taper in spindle and 1/2" adapter and drawbar	93.50
Arbors, hardened and ground, 5" shoulder to nut, with collars, either 1/2" or 1" diameter, each	25.00
Swivel vise, base graduated, hardened jaws, 1 piece body, with nuts, bolts, and washers, 5" width, 1 1/4" depth, 2 1/4" opening	50.00
Upright vise, 2 sizes, for keyseating cylindrical work:	
No. 1, work up to 2 1/2" diameter	27.50
No. 2, work from 2 1/2" to 6" diameter	33.00
Plain vertical milling attachment as above	77.00

NORTON CO., WORCESTER, MASS.

NORTON GRINDING AND LAPPING MACHINES

Machine size	Weight	Price of standard arrangement with standard equipment but without motors	Price of standard arrangement with standard equipment with motors
	<i>Pounds</i>		
6" by 18" type C plain	5,700	\$4,615	
6" by 30" type C plain	6,150	4,945	
10" by 18" type C plain	8,600	7,500	
10" by 30" type C plain	9,200	7,905	
10" by 48" type C plain	10,650	8,295	
10" by 72" type C plain	12,100	8,995	
10" by 96" type C plain	14,700	9,240	
10" by 120" type C plain	16,600	9,795	
14" by 36" type C plain	17,400	12,465	
14" by 48" type C plain	18,400	12,910	
14" by 72" type C plain	20,400	14,000	
14" by 96" type C plain	22,400	15,085	
14" by 120" type C plain	24,400	16,885	
16" by 36" type C plain	18,000	13,215	
16" by 48" type C plain	19,000	13,640	
16" by 72" type C plain	21,000	14,675	
16" by 96" type C plain	23,000	15,720	
16" by 120" type C plain	25,000	17,370	
14" by 36" type C roll	15,100	15,960	
14" by 48" type C roll	16,100	16,400	
14" by 72" type C roll	18,500	17,490	
14" by 96" type C roll	20,900	18,575	
14" by 120" type C roll	23,300	20,210	

NORTON CO., WORCESTER, MASS.—Continued
NORTON GRINDING AND LAPPING MACHINES—Continued

Machine size	Weight	Price of standard arrangement with standard equipment but without motors	Price of standard arrangement with standard equipment with motors
	Pounds		
14" by 144" type C roll.....	25,700	\$21,780	
14" by 168" type C roll.....	28,100	23,420	
16" by 36" type C roll.....	15,900	16,735	
16" by 48" type C roll.....	16,900	17,160	
16" by 72" type C roll.....	19,300	18,195	
16" by 96" type C roll.....	21,700	19,235	
16" by 120" type C roll.....	24,100	20,730	
16" by 144" type C roll.....	26,500	22,775	
16" by 168" type C roll.....	28,900	23,850	
10" by 36" C angular slide.....	8,500	7,475	
10" by 48" C angular slide.....	9,700	7,833	
10" by 72" C angular slide.....	11,100	8,195	
8" by 18" C semiautomatic.....	6,000	5,455	
8" by 30" C semiautomatic.....	6,500	5,785	
10" by 18" C semiautomatic.....	8,300	8,010	
10" by 36" C semiautomatic.....	9,600	8,415	
10" by 48" C semiautomatic.....	10,800	8,805	
8" by 26" Cam-O-Matic.....	12,400	12,440	
5" by 30" Cam-O-Matic.....	13,200	12,835	
5" by 36" Cam-O-Matic.....	13,800	13,530	
5" by 42" Cam-O-Matic.....	14,200	14,085	
17" by 32" D-86 crankpin gr.....	18,300	15,015	
17" by 42" D-86 crankpin gr.....	18,500	15,645	
17" by 62" D-86 crankpin gr.....	21,000	17,460	
17" by 72" D-86 crankpin gr.....	21,200	18,065	
23" x 26" type C HI-Swing.....	13,700	11,137	
23" x 48" type C HI-Swing.....	14,700	11,622	
23" x 72" type C HI-Swing.....	16,700	12,107	
26" x 36" type C HI-Swing.....	14,200	11,862	
26" x 48" type C HI-Swing.....	15,200	12,247	
26" x 72" type C HI-Swing.....	17,200	12,832	
18" x 72" type C autopart.....	12,600	8,880	
44" car wheel grinder.....	35,000	13,915	
16" and 40" x 96" C piston rod.....	23,800	16,025	
16" and 40" x 120" C piston rod.....	26,500	17,655	
16" and 40" x 144" C piston rod.....	29,200	19,290	
6" x 18" hydraulic surface.....	2,000	1,485	
10" x 24" hydraulic surface.....	7,600	5,390	
10" x 36" hydraulic surface.....	8,600	5,790	
10" x 48" hydraulic surface.....	9,600	6,190	
12" x 24" hydraulic surface.....	10,000		\$8,360
12" x 36" hydraulic surface.....	11,000		8,800
12" x 48" hydraulic surface.....	12,500		9,240
12" x 60" hydraulic surface.....	14,000		9,680
12" x 72" hydraulic surface.....	15,500		10,285
No. 1 universal tool and cutter.....	1,180		1,350
No. 2 universal tool and cutter.....	2,500		2,870
No. 2 cutter and tool.....	2,400		1,985
12" x 36" type C multipurpose.....	6,700		6,565
12" x 48" type C multipurpose.....	7,500		7,230
12" x 72" type C multipurpose.....	9,100		7,900
14" x 36" type C multipurpose.....	7,100		6,775
14" x 48" type C multipurpose.....	7,900		7,440
14" x 72" type C multipurpose.....	9,500		8,105
16" x 36" type C multipurpose.....	7,300		7,020
16" x 48" type C multipurpose.....	8,100		7,655
16" x 72" type C multipurpose.....	9,700		8,320
12" x 24" type LC multipurpose.....	5,075		5,360
12" x 36" type LC multipurpose.....	5,500		5,925
12" x 48" type LC multipurpose.....	6,000		6,480
12" x 72" type LC multipurpose.....	6,950		7,670
No. 10-U vertical lapper.....	1,000		1,415
No. 2-F vertical lapper.....	2,500		3,995
No. 2-C vertical lapper.....	2,500		3,550
No. 2-F hand lapper.....	2,250		2,065
No. 26 hypolap.....	8,500		6,790
Type No. 30 Cam-O-Lap.....	3,600		11,985
Type No. 30 Crank-O-Lap.....	2,700		10,615
Type No. 40 Crank-O-Lap.....			
16" x 48".....	5,200		13,575
16" x 72".....	6,200		13,940

¹ Denotes price correction advised by manufacturer. Prices differ from those shown in first edition of Prices of New Machine Tools.

THE S. OBERMAYER CO., CHICAGO, ILL.

SPRUE CUTTERS

Foot power.....	\$200.
Dimensions:	
Depth of throat from cutting edge.....	10½ inches.
Space up and down back of cutter.....	12 inches.
Height over all.....	5 feet.
Shipping weight.....	550 pounds.
New belt power.....	\$400.
Dimensions:	
Depth of throat from cutting edge.....	12 inches.
Space up and down back of cutters.....	11½ inches.
Distance between cutters.....	1¼ inches.
Height of cutters from base.....	35 inches.
Height over all.....	5 x 4 inches.
Floor space.....	20 by 36 inches.
Shipping weight.....	1,350 pounds.
Power required.....	1 horsepower.

THE OHIO MACHINE TOOL CO., KENTON, OHIO

SHAPERS

[Prices do not include electrical equipment]

Size	Weight	Price	Size	Weight	Price
	Pounds			Pounds	
16".....	5,100	\$3,350	32" extra heavy.....	9,500	\$5,000
20".....	5,500	3,465	36".....	8,600	4,820
24".....	8,200	4,330	36" extra heavy.....	9,900	5,215
28".....	8,300	4,380	36" super-dread.....	11,500	6,050
32".....	8,450	4,565			

PLANERS

	Pounds	Price		Pounds	Price
24" x 24" x 6' heavy.....	7,600	\$4,500	28" x 38" x 8' heavy.....	24,000	\$11,500
30" x 30" x 6' standard.....	9,800	5,450	42" x 42" x 10' standard.....	27,500	12,800
30" x 30" x 8' heavy.....	14,000	8,000	48" x 42" x 10' widened.....	29,500	14,200
36" x 36" x 8' standard.....	15,000	8,800			

MILLING MACHINES

Type	Size	Weight	Price
		Pounds	
Ohio Production Mill.....	36" table feed.....	8,300	\$8,000

¹ Denotes price correction advised by manufacturer. Differs from that shown in 1st edition of Prices of New Machine Tools.

THE OHIO MACHINE TOOL CO., KENTON, OHIO—Continued
HORIZONTAL BORING, DRILLING, AND MILLING MACHINE

Type	Weight	Price	Type	Weight	Price
	Pounds			Pounds	
5T-430 table type.....	36,200	\$28,000	Extra for each additional 12" vertical travel.....	1,500	\$1,000
Extra for 48" x 72" table.....	500	500	6T-60A table type.....	66,500	44,000
Extra for 48" x 84" table.....	1,000	1,000	Extra for 60" x 96" table.....	1,200	1,300
Extra for each additional 12" bed length.....	700	380	Extra for 60" x 120" table.....	2,400	3,000
Extra for each additional 12" vertical travel.....	800	650	Extra for each additional 12" bed length.....	1,000	730
5T-600 table type.....	47,000	34,000	Extra for each additional 12" vertical travel.....	1,500	1,000
Extra for 60" x 96" table.....	600	580	6T-420 floor type.....	25,900	18,750
Extra for 60" x 120" table.....	1,200	1,200	For each 12" additional head travel.....	300	330
Extra for each additional 12" bed length.....	1,000	730	For each 12" additional column travel on runway.....	525	330
Extra for each additional 12" vertical travel.....	800	825	5-FA floor type.....	40,000	26,800
5T-43-A table type.....	54,000	33,000	For each additional head travel of 12".....	1,000	925
Extra for 48" x 72" table.....	1,000	450	For each 12" additional column travel on runway.....	900	450
Extra for 48" x 84" table.....	1,500	900	6-FA floor type.....	46,000	34,500
Extra for each 12" bed length.....	700	380	For each 12" additional head travel.....	1,000	1,000
Extra for each additional 12" vertical travel.....	800	1,000	For each 12" additional column travel on runway.....	1,500	580
5T-60-A table type.....	63,000	37,000			
Extra for 60" x 96" table.....	1,200	1,300			
Extra for 60" x 120" table.....	2,400	3,000			
Extra for each additional 12" bed length.....	1,000	730			

THE OILGEAR CO., MILWAUKEE, WIS.
OILGEAR BROACHING MACHINES

Size	Capacity	Stroke	Net weight	Base price
	Pounds	Inches	Pounds	
Horizontal:				
XL-6.....	6,000	36	3,500	\$2,145
XL-12.....	12,000	48	4,000	2,805
XL-20.....	20,000	56	5,700	3,355
XL-32.....	32,000	64	8,000	4,375
XL-50A.....	50,000	64	9,000	5,445
XL-50B.....	50,000	64	12,500	6,050
XL-75A.....	75,000	72	14,000	7,590
XL-75B.....	75,000	72	15,500	8,295
XL-100.....	100,000	72	18,000	10,890
XL-120.....	120,000	86	3,900	3,500
Twin horizontal: XB-12.....				
Cyclematic (vertical):				
XM-30 x 54.....	30,000	54	16,000	9,000
XM-50 x 66.....	50,000	66	24,000	13,800
XM-75 x 66.....	75,000	66	34,000	17,600
Single slide vertical surface:				
XS-6 x 30.....	6,000	30	6,500	4,700
XS-6 x 48.....	6,000	48	8,800	5,100
XS-10 x 42.....	10,000	42	11,000	6,400
XS-10 x 54.....	10,000	54	12,500	6,700
XS-20 x 42.....	20,000	42	13,000	6,540
XS-20 x 54.....	20,000	54	15,000	6,935
XS-30 x 48.....	30,000	48	17,000	7,450
XS-30 x 66.....	30,000	66	18,000	8,165
XS-50 x 48.....	50,000	48	21,000	9,165
XS-50 x 66.....	50,000	66	24,000	10,790
Double slide vertical surface:				
XD-6 x 30.....	6,000	30	10,000	7,050
XD-6 x 48.....	6,000	48	12,500	7,655
XD-10 x 42.....	10,000	42	14,000	8,100
Double slide vertical surface:				
XD-10 x 54.....	10,000	54	16,000	8,450
XD-20 x 42.....	20,000	42	18,000	9,810
XD-20 x 54.....	20,000	54	20,500	10,405
XD-30 x 48.....	30,000	48	23,500	11,175
XD-30 x 66.....	30,000	66	24,500	12,245
XD-50 x 48.....	50,000	48	29,000	13,750
XD-50 x 66.....	50,000	66	35,000	16,185

THE OILGEAR CO., MILWAUKEE, WIS.—Continued
OILGEAR BROACHING MACHINES—Continued

Size	Capacity	Stroke	Net weight	Base price
	Pounds	Inches	Pounds	
Pull-down (vertical):				
XP-10 x 30.....	10,000	30	7,600	\$4,535
XP-10 x 54.....	10,000	54	12,000	5,010
XP-20 x 42.....	20,000	42	11,450	6,540
XP-20 x 66.....	20,000	66	17,300	7,450
XP-30 x 54.....	30,000	54	16,600	8,485
XP-30 x 66.....	30,000	66	19,600	9,165
XP-50 x 66.....	50,000	66	26,700	12,170
XP-75 x 66.....	75,000	66	30,000	15,375

OILGEAR PRESSES

Capacity (tons)	Stroke	Pump size	Net weight	Base price
	Inches	Horsepower	Pounds	
Type "PG" and "PGR" gooseneck:				
6.....	18	4	3,300	\$1,775
8.....	18	8	3,500	1,990
10.....	18	8	3,800	2,015
12.....	18	12	4,000	2,140
15.....	18	12	4,500	2,340
20.....	18	20	5,000	2,570
25.....	18	12	5,500	2,615
30.....	18	20	6,000	2,845
35.....	18	12	6,500	2,700
40.....	18	20	7,000	2,935
Type "PR" gooseneck straightening:				
25.....	12	12	5,700	2,585
30.....	12	20	6,300	2,805
35.....	12	12	5,900	2,805
40.....	12	20	6,500	3,025
50.....	16	12	7,000	3,025
60.....	16	20	8,700	3,245
75.....	16	12	10,400	3,770
100.....	16	20	11,300	3,990
150.....	16	20	13,000	4,785
200.....	20	20	17,000	5,720
250.....	20	20	20,000	6,545
Type "PEC" sideplate:				
6.....	30	8	3,700	1,625
10.....	30	12	4,100	1,790
15.....	30	12	4,200	1,925
Type "PED" sideplate:				
6.....	30	8	3,900	1,815
10.....	30	12	4,300	2,015
15.....	30	12	4,400	2,130

OLIVER INSTRUMENT CO., F. O. B., ADRIAN, MICH.

Filing or die-making machines
PRICES AND SPECIFICATIONS

Style No.	Standard overarm	Standard table	Net weight	Price
			Pounds	
S-1 and S-4.....	8 1/4" throat.....	10" square.....	{ S-1, 117 S-4, 117 }	\$128
SP-1 and SP-2.....	8 1/4" throat.....	10" square.....	{ SP-1, 195 SP-2, 195 }	150
P-4.....	14" throat.....	14" square.....	400	425
Heavy duty.....		14" square.....	680	650

TWIST DRILL GRINDERS

No. 21—Capacity: 1/32" to 1/2" 2 lip drills. A special collet is available for increasing the capacity from 1/32" down to a No. 57 drill—	
Weight—net weight with accessories and motor.....	pounds—150
Price.....	\$225
No. 510—Capacity: 1/4" to 3" and 2-3-4 lips:	
Weight—net without motor, 860 pounds; with motor.....	pounds—950
Price.....	\$700
515667-43—23	

OLIVER INSTRUMENT CO., E. O. B. ADRIAN, MICH.—Continued

ACE TOOL AND CUTTER GRINDER

Capacity—Face mills up to 15" in diameter.	inches	15
Maximum distance between centers	do	8
Swing of centers	do	8
Cross carriage travel	do	180°
Angular adjustment of carriage	inches	10
Longitudinal adjustment of table	do	7½
Maximum distance between grinding wheel and tilting table	do	16¾
Maximum distance between grinding wheel and base table	do	10
Maximum horizontal travel of grinding unit	do	3½ x 24
Size of center table	do	1,090
Net weight machine	pounds	\$930
Price		

FACE MILL GRINDERS

No. 2 "Arc" face mill grinder:		
Capacity—6" to 26" in diameter.		
Weight—net including motor and electrical equipment	pounds	1,500
Price		\$1,520
Automatic face mill grinder:		
Capacity—approximately 10" to 21" face mills.		
Price		\$3,800

DRILL POINT THINNER

Capacity—¼" to 3" in diameter, 2 lip drills.	pounds	400
Weight—net		\$325
Price		

TAP GRINDER

Price		\$550
-------	--	-------

TEMPLATE TOOL BIT GRINDER

Capacity—Tool bits up to ¼" square.	pounds	1,150
Weight—Net		\$1,850
Price		

OSTER MANUFACTURING CO., CLEVELAND, OHIO

No. 410 sewer cleaning machine	Net weight (pounds)	165	Price	\$135
--------------------------------	---------------------	-----	-------	-------

PIPE MACHINES—PRICES AND SPECIFICATIONS

Model No.	Standard range of pipe	Net weight	Price with 110-volt Universal motor	Model No.	Standard range of pipe	Net weight	Price with 110-volt Universal motor
412	Inches	Pounds	\$165.00	12	3¼-12	12,500	\$5,750.00
414	¼-4	380	415.00	12B	3¼-12	7,775	3,650.00
422	¾-2	140	117.50	302	¼-2	750	660.00
502	¼-2	280	235.00	304	1-4	1,170	850.00
531	¾-1¼	450	475.00	326	1¼-6	2,075	1,290.00
562	¾-2	425	410.00	308	2¼-8	4,400	2,175.00
4	1-4	4,250	2,450.00	704	1-4	2,975	1,685.00
6A	¼-6	6,000	2,925.00	706	1-6	3,400	1,925.00
8	2¼-8	7,350	3,400.00	572	¼-2	830	730.00
8B	2¼-8	5,500	2,385.00				

OSTER MANUFACTURING CO., CLEVELAND, OHIO—Continued

BOLT MACHINES

Model No.	Range of pipe or nipples	Range of bolts N. C. or Whitworth	Range of bolts N. F. or B. S. F.	Net weight, including 110-volt Universal motor	Price
	Inches	Inches	Inches	Pounds	
541	¾-1¼	¾-1¼	¾-1¼	925	\$615
542	¾-1¼	¾-1¼	¾-1¼	925	690

NO. 601 HAND SCREW MACHINE

Automatic chuck capacity:	inches	1½
Round bar	do	1½
Square bar	do	1½
Hex bar	do	14
Swing over bed	do	33
Length of bed	do	8
Length of saddle	do	18¾
Length of cross slide	do	1,750
Net weight	pounds	\$1,725
Price		

	Weight	Price
	Pounds	
No. 825 chaser grinder	125	\$215
Willie Williams pipe machine	535	295
No. 915 single spindle bolt machine	4,400	1,425
No. 915 double spindle bolt machine	5,850	2,250
No. 922 single spindle bolt machine	4,500	2,025
No. 922 double spindle bolt machine	6,000	3,025

PAWTUCKET MANUFACTURING COMPANY, PAWTUCKET, R. I.

Upright bar shears:		Screw shaving machines:	
No. 1	1 \$1,725	No. 0	\$800
No. 2	2 2,000	No. 1	1,300
No. 3	1 1,100	No. 1½	1,400
	2 1,350	No. 2	1,800
	1 850	Nut facers	1,350
	2 1,000	Tools, for forging machine:	
Forging machines:		½"	40
½"	1 2,500	¾"	44
¾"	2 2,700	1"	50
1"	1 2,900	1½"	55
1½"	2 3,200	2"	60
2"	1 3,000	Collets for shavers:	
2½"	2 3,300	No. 0	15
3"	1 3,650	No. 1	18
3½"	2 4,000	Size 1½"	20
4"	1 4,600	No. 2	30
4½"	2 5,000		

1 Belt driven.
2 Motor driven.

PEDRICK TOOL & MACHINE COMPANY, PHILADELPHIA, PA.
PEDRICK BENDING MACHINES (ALL MODELS)

Hand machines:		
Model A without forms and shoes 1" standard weight.....	\$558	
Model B without forms and shoes	750	
Motor driven machines:		
Model C without forms and shoes 2" extra heavy	1,200	
Model C-2 without forms and shoes 3"	2,725	
Model D without forms and shoes 4"	3,500	
Model E without forms and shoes 6"	6,000	
Model E-2 without forms and shoes 6" extra heavy	7,500	
Forms and shoes extra as follows:		

Pipe size (inches)	Standard radius	Price (cast iron)	Pipe size (inches)	Standard radius	Price (cast iron)	Pipe size (inches)	Standard radius	Price (cast iron)
	Inches			Inches			Inches	
1/4	1	\$14	1 1/4	4	\$48	3 1/2	12	\$200
3/8	1	16	1 1/2	5	60	4	15	230
1/2	2 1/4	18	2	6	80	4 1/2	20	315
3/4	2 1/4	22	2 1/2	10	120	5	25	375
1	3	40	3	11	160	6	28	495

¹ Model B-1 was made of welded steel and due to impossibility to secure same it has been substituted for the duration for the model C.
² Model C-2 has been substituted for the C-1; heavier construction, but same price.
³ Model D-1 is substituted for duration due to impossibility to secure steel plate (welded).

Automatic double disk grinders: 20", \$4,200; 30", \$4,650.

PEERLESS MACHINE CO., RACINE, WIS.
METAL SAWING MACHINES
PEERLESS STANDARD TYPE

Description	Capacity							
	6" x 6"		9" x 9"		13" x 16"		13" x 16"	
	Weight	Price	Weight	Price	Weight	Price	Weight	Price
	Pounds		Pounds		Pounds		Pounds	
Single speed, belt drive.....	750	\$275	1,150	\$505	1,750	\$725		
Single speed, motor mountings.....	800	315	1,245	535	1,800	760		
Single speed, AC motor drive.....	920	415	1,345	635	1,900	865		
Single speed, DC motor drive.....	920	500	1,345	700	1,900	930		
3 speed, belt drive.....	950	370						
6 speed, belt drive.....			1,290	605	1,950	825	3,220	\$1,165
3 speed, motor mountings.....	1,015	410						
6 speed, motor mountings.....			1,360	635	2,000	860	3,225	1,200
6 speed, AC motor drive.....			1,460	735	2,110	965	3,340	1,305
6 speed, DC motor drive.....			1,460	800	2,110	1,030	3,340	1,370
3 speed, AC motor drive.....	1,125	510						
3 speed, DC motor drive.....	1,125	595						

PEERLESS IMPROVED UNIVERSAL TYPE

Description	Capacity					
	6" x 6"		10" x 10"		13" x 13"	
	Weight	Price	Weight	Price	Weight	Price
	Pounds		Pounds		Pounds	
Belt driven.....	900	\$500	2,075	\$980	3,100	\$1,265
Motor driven, customer's motor and starter.....	1,000	530	2,175	1,010	3,200	1,295
Motor driven, AC.....	1,000	600	2,175	1,080	3,200	1,370
Motor driven, DC.....	1,000	685	2,175	1,165	3,200	1,460

PEERLESS MACHINE CO., RACINE, WIS.—Continued
PEERLESS IMPROVED UNIVERSAL TYPE—Continued

	Weight	Price
	Pounds	
Peerless universal No. 2 portable pipe cutting and threading machine.....	300	\$285
Peerless vertical type heavy duty metal sawing machine:		
Plain.....	5,300	3,245
With AC motor.....	5,400	3,335
With DC motor.....	5,400	3,465

PEERLESS HIGH DUTY TYPE HYDRAULIC TYPE METAL SAWING MACHINE

Description	Capacity					
	6 1/2" x 6 1/2"		10" x 10"		14" x 14"	
	Weight	Price	Weight	Price	Weight	Price
	Pounds		Pounds		Pounds	
Without motor.....	2,070	\$960	2,830	\$1,580	4,030	\$2,085
With AC motor.....	2,170	1,045	2,930	1,665	4,150	2,175
With DC motor.....	2,170	1,130	2,930	1,750	4,150	2,270
With customer's motor.....	2,170	980	2,930	1,600	4,150	2,105

PEERLESS HIGH DUTY TYPE HYDRAULIC FEED METAL SAWING MACHINE WITH HYDRAULICALLY OPERATED AUTOMATIC BAR FEED

Description	Capacity			
	6" x 6"		9" x 9"	
	Weight	Price	Weight	Price
	Pounds		Pounds	
Without motor.....	3,325	\$1,550	4,760	\$2,425
With customer's motor.....	3,425	1,570	4,880	2,445
With AC motor.....	3,425	1,635	4,880	2,515
With DC motor.....	3,425	1,720	4,880	2,610

PEERLESS DRY CUT TYPE

Description	4 1/2" x 4 1/2" Capacity			
	Belt driven		Motor driven	
	Weight	Price	Weight	Price
	Pounds		Pounds	
AC current.....			235	\$170
DC current.....	200	\$110	235	175
AC current, 208 volts.....			235	175

PERKINS MACHINE CO., WARREN, MASS.

MODEL A PRESSES

No.	Prices		No.	Prices	
	Plain drive	Geared		Plain drive	Geared
1.....	\$115	\$175	5.....	\$585	\$600
1 1/2.....	175		6.....	825	995
1 3/4.....	210		7.....	1,125	1,325
2.....	150	250	8.....	1,425	1,650
3.....	290	410	9.....	2,200	2,500
4.....	475	525			

1 1/2-inch throat.

1 3/4-inch throat.

MODEL B PRESSES

Model No.	Prices			Model No.	Prices		
	Plain drive	Geared	"V" belt motor drive plain or geared including motor support, sheave and belts		Plain drive	Geared	"V" belt motor drive plain or geared including motor support, sheave and belts
100B.....	\$150	\$185	\$30	355B.....	\$485	\$575	\$50
100B spec.....	175	210		400B.....	625	735	60
200B.....	235	290	40	500B.....	825	975	70
201B.....	420			600B.....	1,325	1,500	80
300B.....	285	350	45	700B.....	1,825	2,250	90
330B.....	435	525	50	800B.....	2,250	2,850	100

Standard junior including motor.....	\$105
Standard junior—"E" with motor.....	105
No. 6 La Foot press.....	65
No. 7 La Foot press.....	115
No. 3 model K screw press.....	125
No. 4 model K screw press.....	190
No. 7H special.....	1,675

THE PETTINGELL MACHINE COMPANY, AMESBURY, MASS.

Description:	Price
Regular size automatic power hammer, 33" throat.....	\$195
Extra large automatic power hammer, 33" throat.....	265
Motorized hammer with motor (bracket type), 33" throat.....	485
Motorized hammer with motor (bracket type), 40" throat.....	525
Motorized hammer with motor (pedestal type).....	510
Hammer with mallet base and steel dies.....	330
Combination hammer (1 top arm, 2 lower arms).....	330
Regular power beader, folder and cutter, 19" throat.....	310
Friction drive rotary cutting shear, 60" throat.....	425
Electric rotary shear, 60" throat.....	675
Friction drive rotary cutting shear, 30" throat.....	365
Electric rotary cutting shear, 30" throat.....	625
Extra heavy rotary trimming cutter, 16" throat.....	650
Heavy type electric rotary shear.....	800
Special rotary trimming cutter, 30" throat.....	365
Electric rotary trimming cutter.....	625
Electric table moulder.....	125

POPE MACHINERY COMPANY, HAVERHILL, MASS.

PYRAMID TYPE BENDING ROLLS (3 ROLLS)—PRICES AND SPECIFICATIONS

Capacity (inches)	Length	Diameter upper roll	Base weight	Price (base machine)	Capacity (inches)	Length	Diameter upper roll	Base weight	Price (base machine)
	Feet	Inches	Pounds			Feet	Inches	Pounds	
1/4.....	6	6 1/2	5,850	\$2,050	3/4-Con.	12	15	40,500	\$10,935
	8	7 1/2	8,000	2,600		14	16	45,500	11,830
	10	8	10,000	3,000		16	17	51,300	12,825
	12	10	14,500	4,300		18	18	55,500	17,800
3/8.....	6	7 1/2	6,500	2,112		20	20	81,500	20,350
	8	9	9,000	2,700	1/2.....	22	22	102,000	\$25,500
	10	10	13,000	3,900		24	24	127,600	31,900
	12	12	20,000	5,600		26	26	156,500	39,000
1/2.....	6	8	10,000	3,280		28	28	202,300	50,000
	8	10	15,200	4,560		30	30	238,200	59,500
	10	12	24,300	7,250	3/4.....	8	14	27,500	8,250
	12	13	27,400	7,950		10	15	35,500	10,300
	14	14	35,500	9,940		12	16	41,800	11,700
	16	15	44,600	12,000		14	17	47,900	12,935
	18	16	50,700	13,150		16	18	60,500	15,725
	20	17	57,800	15,000		18	20	76,800	19,200
	22	18	69,100	17,250		20	22	105,000	26,200
	24	20	88,500	22,125		22	24	127,800	31,700
	26	22	115,200	28,800		24	26	154,800	38,700
	28	24	150,100	37,500		26	28	189,700	47,500
	30	26	179,900	45,000		28	30	233,100	58,000
3/4.....	6	10	13,600	4,080	1.....	30	32	288,900	72,000
	8	12	22,300	6,250		32	32	325,500	81,750
	10	13	26,400	7,400		8	15	32,500	10,065
	12	14	32,000	8,650		10	16	38,500	13,000
	14	15	41,800	10,875		12	17	46,500	15,250
	16	16	47,600	11,900		14	18	56,500	18,850
	18	17	54,500	13,825		16	20	72,500	23,700
	20	18	68,300	17,000		18	22	95,000	30,000
	22	19	81,700	20,400		20	24	120,000	37,500
	24	21	102,100	25,500		22	26	150,400	46,750
	26	23	130,100	32,500		24	28	187,300	56,500
	28	25	157,000	39,000		26	30	227,700	70,000
	30	27	187,500	46,500		28	33	282,900	86,000
1.....	6	12	15,900	5,675		30	36	347,600	100,000
	8	13	24,300	7,050		32	40	400,000	120,000
	10	14	29,800	8,345		34	44	480,000	

STRAIGHTENING ROLLS (7 ROLLS)—PRICES AND SPECIFICATIONS

Capacity (inches)	Length	Diameter upper roll	Weight	Price (base machine)	Capacity (inches)	Length	Diameter upper roll	Weight	Price (base machine)
	Feet	Inches	Pounds			Feet	Inches	Pounds	
1/2.....	4	8	45,000	\$13,000	3/4.....	8	14	77,000	\$20,500
	6	10	52,000	15,000		10	15	82,000	23,000
	8	12	60,000	17,500		12	16	96,000	26,000
	10	13	70,000	20,000	1.....	10	17	100,000	33,000
	12	14	83,000	23,500		12	18	120,000	39,000

PORTER-MCLEOD MACHINE TOOL CO., INC., HATFIELD, MASS.

Porter-McLeod cold-metal sawing machines

SWING CARRIAGE TYPE—8" ROUND STOCK CAPACITY

[Blade 20" diameter is standard, 18" to 20" may be used]

8-inch standard machine including oil pump with 1/4 hp. motor, blade speed 54 feet per minute. Friction feed 0" to 3" per minute. Manual clamping equipment, silent chain drive, but without main drive motor.....	\$3,000.00
Extra for 5 hp. 1,800 r. p. m. constant speed motor, starter and push-button station.....	100.00
Extra for adjustable clamp beam.....	75.00
Extra for 20" diameter high-speed inserted tooth blades.....	129.20

PORTER-MCLEOD MACHINE TOOL CO., INC., HATFIELD, MASS.—Con.

Porter-McLeod cold-metal sawing machines—Continued

SWING CARRIAGE TYPE—8" ROUND STOCK CAPACITY—continued

8-inch machine having variable speeds and feeds:	
Blade speed 28 feet; 0.86", 1.22", and 1.72" feed per minute.	
Blade speed 54 feet; 1.63", 2.33", and 3.26" feed per minute.	
Blade speed 108 feet; 3.26", 4.66", and 6.52" feed per minute.	
And including oil pump with its motor, manual clamping equipment silent chain drive, but without main drive motor	\$3,500.00
Extra for 7½ hp. 1,800 r. p. m. constant speed motor, starter and push-button station	125.00
Extra for adjustable clamp beam	75.00
Hydraulic clamping, including hydraulic cylinder, clamp beam, adjusting screw and handwheel, hydraulic pump giving pressures up to 1,000 pounds per square inch on clamping piston, 1½ hp. motor, operating valve control, gage and starter complete	1,200.00
Stock feed tables, hand feed up to	250.00
Chain feed with multiple fixtures for production work up to	750.00
Short end fixtures for production work, multiples, no burrs. Prices quoted on application.	

Porter-McLeod 1" capacity wet abrasive cutting-off machine

No. 2A bench-type machine, without electrical equipment, mounted on pedestal tank base, complete with impeller pump, motor and strainer mounted inside the pedestal with necessary piping and throttle valve mounted	625.00
Extra for mounting 1½ hp. 220-, 440-, or 550-volt, 60-cycle, 3-phase, 1,800 r. p. m. motor with manual starter mounted on front of the base	66.00
Extra for magnetic starter in place of manual type	12.00
Extra for single-phase motor	10.00

Porter-McLeod 16-inch geared head, single pulley drive, 12 speed, screw cutting, engine lathes

[Arranged for motor drive, without electrical equipment]

	16" x 6'	16" x 7'	16" x 8'	16" x 10'
Including large motor leg under headstock, and small cabinet leg under tailstock and chip pan	\$3,000	\$3,090	\$3,180	\$3,360
Extra for taper attachment	190	190	190	190
Extra for draw in chuck and one collet	100	100	100	100
Extra for fitting chuck plate to chuck	15	15	15	15
Extra for 3 hp. standard voltage motor including magnetic switch and push-button station, mounted and wired	100	100	100	100
Extra for 5 hp. standard voltage motor including magnetic switch and push-button station, mounted and wired	120	120	120	120

POTTER & JOHNSON MACHINE CO., PAWTUCKET, R. I.

AUTOMATIC TURRET LATHES

Type	Swing over bed	Swing over cross slide	Distance between spindle centers	Price	Type	Swing over bed	Swing over cross slide	Distance between spindle centers	Price
4-D	Inches 21	Inches 10	Inches 10	\$5,775	5-D-2	Spindles 2	Inches 11½	Inches 10½	\$8,377
5-D	25	12	12	7,480	5-D-2	2	13	15½	10,010
6-DREL	34½	21	21	8,760	5-D-2E	2	18½	15	10,560
6-DREL	34½	21	21	9,915					

1 Includes electric power reverse.

2 9-inch.

3 12-inch.

4 15-inch.

PRATT & WHITNEY, WEST HARTFORD, CONN.

Machine	Weight	Base price with motor, not furnished without	Machine	Weight	Base price with motor, not furnished without
Deep Hole Drill Sharpener.	Pounds 900	\$1,515	2B Universal Die Sinker: 0 to 3½"	Pounds 7,930	\$6,930
½B Drilling Machine, 2-spindle:			2B Plain Die Sinker	5,325	4,640
½B x 30"	6,200	7,670	3B Universal Die Sinker	12,750	8,900
½B x 50"	6,940	8,060	3B Plain Die Sinker	8,250	5,375
½B 2-spindle Reaming Machine:			Hydraulic Vertical Surface Grinders:		
½B x 30"	5,580	7,415	36"	12,500	7,800
½B x 50"	6,450	7,800	60"	14,400	9,040
½B Chambering Machine:			Gear Grinders:		
½B x 30"	4,060	8,700	9"	5,620	7,350
½B x 50"	4,900	8,980	10"	8,410	9,900
½B 2-spindle Rifling Machine:			10" 2-wheel Grinder	10,250	14,225
½B x 30"	6,900	11,225	Model C Thread Miller:		
½B x 50"	7,880	11,500	4½" x 12"	2,780	4,700
1B Drilling Machine:			4½" x 30"	3,520	5,225
1B x 50"	8,020	9,865	6" x 20"	4,750	6,065
1B x 74"	8,640	10,345	6" x 60"	5,850	6,435
1B x 98"	9,260	10,890	6" x 90"	7,150	7,670
1B Reaming Machine:			6" x 120"	8,400	8,425
1B x 50"	8,320	9,335	12B Vertical Miller and Profiler:		
1B x 74"	8,920	9,800	Single spindle 14" x 18"	3,850	3,600
1B x 98"	9,500	10,235	Double spindle 14" x 18"	4,475	4,160
1B 6-spindle Reaming Machine: 1B x 50"	10,400	15,950	Bench Shaver	1,600	3,740
1B Rifling Machine:			Contour Cutter Grinder	700	3,925
1B x 50"	10,750	13,125	1½ Drilling Machine:		
1B x 74"	11,500	13,550	1½ x 37"	10,000	12,100
1B x 98"	12,250	14,000	1½ x 61"	12,235	13,200
Jig Bore:			1½ x 81"	13,540	14,300
1½B Jig Borer	4,125	5,245	1½ x 105"	16,070	15,290
2A Jig Borer:			1½B Rifling Machine:		
24" x 30"	8,175	8,150	1½ x 37"	14,000	15,150
36" x 44"	9,440	9,150	1½ x 61"	15,150	16,250
3B Jig Bore: 24" x 54"	14,900	13,750	1½ x 81"	16,250	17,350
3C Universal Bench Miller with bench and motor drive complete	850	1,340	1½ x 105"	17,350	
Bench Lathes—With bench and motor drive complete:					
7" x 16"	655	965			
10" x 20"	707	1,025			

Machine	Weight without motor	Base price	
		With motor and starter	Without motor
Model C toolroom lathe:	Pounds		
12" x 30"	2,600	\$3,817	\$3,740
12" x 54"	3,200	3,937	3,860
14" x 30"	4,120	3,984	3,895
14" x 54"	4,700	4,124	4,035
14" x 78"	4,725	4,274	4,185
16" x 30"	4,200	4,644	4,520
16" x 54"	4,650	4,819	4,695
16" x 78"	5,900	5,004	4,880
Vertical Shapers:			
6"	5,140	4,817	4,730
12"	8,850	6,828	6,720
30" Vertical Miller and Profiler:			
Single spindle 24" x 30"	5,460	6,774	6,685
Double spindle 24" x 30"	5,500	7,264	7,175

PRATT & WHITNEY, WEST HARTFORD, CONN.—Continued

Machine	Weight including fixture	Base price with motor not furnished without	Fixture
<i>Pounds</i>			
Keller Cutter and Radius Grinder:			
R-6.....	815	\$1,045	
R-8.....	815	1,825	
Keller Automatic Die Cutting Machine:			
Type E-6.....	5,840	5,650	
Type E-63.....	6,600	6,600	
Keller Automatic Bottle Mold Cutting Machine:			
No. 542.....	7,085	7,000	
No. 543.....	7,985	8,100	
Keller Machine, type G and GG:			
Type G.....	5,400	6,215	\$385
Type GG.....	5,500	7,315	385
Keller Machine, type BL:			
BL-2416 Single Spindle.....	8,610	10,450	715
BL-2416 3-Spindle Belt.....	8,810	12,100	850
BL-2416 3-Spindle Geared.....	8,810	12,980	850
BL-2420 Single Spindle.....	9,180	11,220	910
BL-2420 3-Spindle Geared.....	9,400	14,190	1,100
BL-3620 Single Spindle.....	9,700	12,650	910
BL-3620 3-Spindle Geared.....	10,000	15,620	1,100
Keller Machine, type BG:			
BG-1-482.....	24,500	17,600	1,100
BG-1-483.....	25,500	18,800	1,265
BG-1-602.....	27,800	18,200	1,485
BG-1-603.....	29,200	19,400	1,700
BG-2-724.....	52,000	26,600	3,740
BG-2-1085.....	61,800	30,800	4,400
BG-2-1205.....	65,300	31,700	4,620

<i>Obsolete models</i>	<i>Equivalents</i>
Centering: 4"—2 spindle.....	Sundstrand.
Die sinker:	
No. 2.....	\$1,000.
No. 3.....	\$1,500.
Drills: Multiple spindle.....	National Automatic Tool Co.
Grinders (cylindrical):	
5 x 30.....	Fitchburg Grinding Machine Co.
6 x 48.....	6 x 32.
Grinders (vert. surface):	
14".....	Pratt & Whitney 36".
22".....	\$14,500.
Rotary table type.....	O. S. Walker.
Milling:	
Automatics:	
No. 5 and No. 8.....	Sundstrand No. 00 Hyd. Feed—\$1,749.
No. 10.....	Cincinnati Plain Auto. No. 1-12.
No. 12.....	\$4,000.
Cam.....	Frew.
Duplex.....	Sundstrand Duplex.
Hand:	
No. 2.....	Standard Eng. Works—\$550.
No. 10.....	U. S. Machine Tool—\$350.
No. 2 Horizontal Pl. power feed).	Kemp Smith No. 1, plain.
Lincoln Type.....	Gooley & Edlund.
Spline Miller:	
2".....	Taylor & Fenn 4".
4".....	Taylor & Fenn 6".
Thread Mills:	
6" and 14".....	Pratt & Whitney 6" & 20".
12" and 48".....	\$7,000.
Turret lathes:	
1½" x 18".....	Foster No. 5, (screw machine).
No. 2½".....	Warner & Swasey No. 1—\$2,190.
1" x 33".....	Foster No. 3.
2½" belt drive.....	Foster No. 7.
2".....	Foster No. 5 (universal).
Flat turret lathes.....	Jones & Lamson.
Planers.....	See list of equivalents.

PRODUCTION ENGINEERING CO.
(FORMERLY AUTOMETRIC MACHINE TOOL CO.)
BERKELEY, CALIFORNIA

	Weight (pounds)	Base price
Autometric universal jig boring layout and inspection machine.....	2,700	\$4,325
Autometric horizontal universal precision boring machine.....	2,600	4,090

THE PRODUCTO MACHINE CO., BRIDGEPORT, CONN.

No. 1 Producto gear cutter.....	\$1,775
No. 2 Producto gear cutter.....	2,150
No. 3 Producto gear cutter.....	3,400
No. 0 Bristol hand miller.....	850
No. 6 automatic miller (Producto).....	2,800
No. 7½ automatic miller (Producto).....	3,700
No. 44 automatic miller (Producto).....	9,000
No. 50 automatic miller (Producto).....	7,500

PROVIDENCE ENGINEERING WORKS, INC., PROVIDENCE, R. I.

DRILLING MACHINES

PRICES MODELS H 16-INCH AND K 24-INCH

Machine No.	Number of spindles	Distance between spindles	Belt drive T. and L. pulleys, type B	Motor drives	
				Motors and equipment not included, type C	Motors and equipment fully wired, type V
		<i>Inches</i>			
H-1.....	1	9	\$450	\$450	\$500
H-2.....	2	18	740	740	845
H-23.....	3	9	810	810	920
H-3.....	3	13½	1,060	1,060	1,260
H-34.....	3	18	1,120	1,120	1,330
H-35.....	3	18	1,190	1,190	1,400
H-4.....	4	9	1,380	1,380	1,600
H-45.....	4	12	1,450	1,450	1,680
H-46.....	4	15	1,520	1,520	1,760
H-5.....	5	9	1,655	1,655	2,070
H-56.....	5	11¼	1,725	1,725	2,150
H-6.....	6	9	2,025	2,025	2,430
K-1.....	1	9	490	490	540
K-2.....	2	18	825	825	930
K-23.....	3	9	895	895	1,010
K-3.....	3	13½	1,150	1,150	1,360
K-34.....	3	18	1,210	1,210	1,420
K-35.....	3	18	1,280	1,280	1,490
K-4.....	4	9	1,525	1,525	1,745
K-45.....	4	12	1,595	1,595	1,825
K-46.....	4	15	1,655	1,655	1,905
K-5.....	5	9	1,780	1,780	2,180
K-56.....	5	11¼	1,950	1,950	2,360
K-6.....	6	9	2,145	2,145	2,550

PROVIDENCE ENGINEERING WORKS, INC., PROVIDENCE, R. I.—Con.

DRILLING MACHINES—Continued

PRICES, MODELS E (BENCH TYPE) AND F (FLOOR TYPE) 14-INCH MACHINES

Machine No.	Number of spindles	Distance between spindles	Working surface of tables	Weights	Price, including motor fully wired
		Inches		Pounds	
E1V.....	1	7	12" x 14"	235	\$350
E2V.....	2	7	12" x 21"	425	640
E23V.....	2	14	12" x 28"	460	680
E3V.....	3	7	12" x 28"	600	930
E34V.....	3	10½	12" x 35"	625	970
E36V.....	3	14	12" x 42"	670	1,010
E4V.....	4	7	12" x 35"	760	1,210
E45V.....	4	9½	12" x 42"	815	1,250
E46V.....	4	11¾	12" x 49"	850	1,290
E5V.....	5	7	12" x 42"	950	1,495
E56V.....	5	8¾	12" x 49"	1,000	1,540
E6V.....	6	7	12" x 49"	1,130	1,800
F1V.....	1	7	12" x 14"	400	400
F2V.....	2	7	12" x 21"	600	720
F23V.....	2	14	12" x 28"	705	790
F3V.....	3	7	12" x 28"	850	1,040
F34V.....	3	10½	12" x 35"	915	1,110
F35V.....	3	14	12" x 42"	1,055	1,190
F4V.....	4	7	12" x 35"	1,050	1,360
F45V.....	4	9½	12" x 42"	1,220	1,440
F46V.....	4	11¾	12" x 49"	1,300	1,520
F5V.....	5	7	12" x 42"	1,350	1,680
F56V.....	5	8¾	12" x 49"	1,435	1,760
F6V.....	6	7	12" x 49"	1,585	2,000

QUICKWORK—WHITING, HARVEY, ILL.

	Price
Shear No. 7A.....	\$1,690
Shear No. 8A.....	1,690
Shear No. 10A.....	1,970
Shear No. 20A.....	2,310
Shear No. 23A.....	2,560
Shear No. 25A.....	3,050
Shear No. 30A.....	5,480
Shear No. 34A.....	7,075
Shear No. 35A.....	6,400
Shear No. 40A.....	9,480
Shear No. 50A.....	13,620
Shear No. 60A.....	14,640
Stamping trimmer ¹	3,200
Standard light hammer ²	1,432
Standard large hammer ²	1,726
Heavy duty hammer.....	2,364

¹ Does not include cutters.² Include column for mounting.

RACINE TOOL & MACHINE CO., RACINE, WIS.

HIGH SPEED GRAVITY FEED MACHINES

Model No.	Capacity			Prices					
	Rated	Actual	At 45°	Belt driven	Belt driven, 3-speed transmission	Arranged for motor without motor	Motor driven (stand-ard motor)	Arranged for motor drive, 3-speed transmission without motor	Motor driven 3-speed transmission, and standard motor
.....	6" x 6"	Solid vise, 6½" x 6½"	.....	1	4	3X	3	5X	5
.....	6" x 6"	Swivel vise, 6½" x 6½"	4½"	\$220	\$300	BX	B	CX	C
2.....	6" x 6"	Swivel vise, 6½" x 6½"	4½"	275	355	BX	B	CX	C
7.....	12" x 12"	Swivel vise, 12¾" x 12¾"	9"	465	645	BX	B	CX	C
9.....	12" x 15"	Swivel vise, 12¾" x 10"	11"	525	605	BX	B	CX	C
10.....	9" x 9"	Swivel vise, 6" x 8"	.....	410	490	BX	B	CX	C

¹ Extra for magnetic push button control AC \$15, D C \$40.² With manual safety switch.

SAWS—HYDRAULIC FEED HEAVY DUTY EQUIPPED WITH BUILT-IN 3-SPEED TRANSMISSION

Model No.	Capacity			Prices		
	Rated	Actual	With swivel vise at 45°	Belt driven	Arranged for motor without motor	Complete with standard motor and push-button control
30.....	10" x 10"	10" x 11"	10" x 6"	A	CX	C
31.....	12" x 12"	13" x 13"	13" x 8"	A	CX	C
32.....	10" x 10"	10" x 16½"	10" x 10"	A	CX	C
33.....	12" x 16"	13" x 16½"	13" x 10"	A	CX	C
34.....	10" x 20"	10" x 22"	10" x 10"	A	CX	C
35.....	14" x 20"	14" x 22"	13" x 10"	A	CX	C

¹ Special 10" x 13" capacity, for these machines, add \$95.

SHEAR CUT PRODUCTION SAWS POSITIVE-PROGRESSIVE SCREW FEED

Rated	Capacity		Prices			
	Actual		Belt driven, single speed	Belt driven, three speeds	Arranged for motor 3-speed transmission, without motor	Motor driven, 3-speed transmission, standard motor, push button control
6" x 6".....	Solid vise 6½" x 6½"		\$600	\$655	\$675	\$760
8" x 9".....	8¾" x 9¾"		715	770	790	875

¹ For these machines in 7¼" x 7¼" capacity, \$75.² With quick acting swivel vise 8¼" x 4½".

RACINE TOOL & MACHINE CO., RACINE, WIS.—Continued

RACINE "OIL-CUT" HYDRAULIC MACHINE HYDRAULIC FEED AND PRESSURE

Rated capacity—6" x 6"—actual capacity 6½" rated capacity at 45° 4" x 6½"

No. 6-C. 3-speed motor driven with standard motor and enclosed manual starter with thermal overload protection.....	\$625
Extra for push-button control with a. c. motors, built-in type, with overload and low voltage protection.....	15
No. 6-CX. Same as above, arranged for motor without motor or electrical equipment. Includes cast iron adjustable motor mounting base, bolted to rear of machine base, cast iron safety guard, motor sheave pulley and three "V" belts.....	565
No. 6-A. Belt driven and equipped with cast iron adjustable belt guard.....	525

RACINE UTILITY SAW (HYDRAULIC) DRY CUT

[Capacity—rated 6" x 6", actual 6½" x 6½" at 45°, 6½" x 4"]

No. D-3. Single speed, belt driven.....	\$190
No. D-3BX. Two speeds, arranged for motor without motor.....	250
No. D-3B. Two speeds, complete with our standard motor.....	295
(Includes safety manual switch, with overload protection.)	
Extra for magnetic push-button control (AC).....	15

RACINE UTILITY SAW (HYDRAULIC) WET CUT

[Capacity—rated 6" x 6", actual 6½" x 6½" at 45°, 6½" x 4"]

No. W-3. Single speed, belt driven.....	\$305
No. W-3BX. Two speeds, arranged for motor without motor.....	365
No. W-3B. Two speeds, complete with our standard motor.....	415
(Includes manual safety switch with overload protection.)	
Extra for equipping with 3-speed sliding gear transmission.....	65

RACINE DUPLEX BAND SAW

[Capacity 14". Capacity under guide, Nos. 12 and 13, 6"; No. 14, 5"; Nos. 12-A, 13-A, 14-A, 3"]

No. 12. Single speed, solid table.....	\$185
No. 13. Two speeds, solid table.....	225
No. 14. Two speeds, table and vise sliding on ball bearings, gravity feed.....	265

RASMUSSEN MACHINE CO., INC., RACINE, WIS.

SAW MORE METAL CUTTING MACHINE

Model	Capacity	Arranged for motor without motor		Standard motor, 1' starter and push button station	
		Weight	Price	Weight	Price
Model V 1 manual:	Inches	Pounds		Pounds	
6 VP.....	6 x 6	1,470	\$600	1,550	\$660
10 VP.....	10 x 10	1,650	890	1,750	950
Model V automatic:					
6 VA.....	6 x 6	2,205	950	2,335	1,039
10 VA.....	10 x 10	2,315	1,240	2,445	1,329
Model GB 1 manual:					
6 BP.....	6 x 6	1,470	670	1,550	759
10 BP.....	10 x 10	1,650	960	1,750	1,049
Model GB 1 automatic:					
6 BA.....	6 x 6	2,205	1,055	2,335	1,144
10 BA.....	10 x 10	2,315	1,345	2,445	1,434

1' Model V has standard starter. All others have magnetic starter.

1' Model V manual includes—3-speed silent V-belt transmission, without automatic bar feed but with cabinet base, quick acting swivel vise, swivel on base to 45° for angle cutting.

Model GB manual—4-speed, gear box transmission instead of 3-speed silent V-belt transmission. Otherwise the same as model V manual.

1' Model V automatic machine—3-speed silent V-belt transmission, with 12-foot full automatic bar feed carrier. Cabinet base, quick acting swivel vise—swivel on base to 45° for angle cutting.

Model GB automatic machine—4-speed gear box transmission instead of 3-speed silent V-belt transmission. Otherwise same as model V automatic.

REED PRENTICE CORP., WORCESTER, MASS.

LATHES

Size	8-speed headstock		16-speed headstock		Extra 2' of bed
	Weight	Price	Weight	Price	
Engine:	Pounds		Pounds		
14" A A.....	3,500	\$2,955	3,600	\$3,050	\$123
16" A A.....	3,850	3,325	3,950	3,425	136
20" A.....	4,600	4,199	4,750	4,283	152
Tool room:					
14" B.....	3,700	3,432	3,800	3,527	145
16" B.....	4,000	3,808	4,100	3,910	158

VERTICAL MILLING MACHINES

Model	Weight	Price	Model	Weight	Price
	Pounds			Pounds	
2V.....	1,650	\$1,550	5.....	11,500	\$11,957
3VG.....	2,850	3,681	6.....	18,500	18,124
3VGS.....	4,795	4,575			

No. 5 combination jig boring and vertical milling machine..... \$13,409
Weight..... pounds..... 10,500

BECKER VERTICAL MILLING MACHINE PRICES

Model No.	Drive	Feeds		Power		Weight	Price, new
		Long	Cross	V. knee	V. head		
		Inches	Inches	Inches	Inches	Pounds	
1.....	Cone.....	12	11	16	2	900	\$800
2.....	do.....	16	8	16	2	1,000	950
2H.....	do.....	P19	11	16	3	1,345	1,300
2A.....	do.....	P21	12	17	3½	1,360	1,350
3.....	do.....	27	10	17	3½	1,900	1,750
3H.....	do.....	P28	14	19	5	1,940	1,950
4B.....	do.....	P32	P14	P14	P4	2,540	3,000
AB.....	Gear box.....	39	14	(1)	(1)	3,234	3,500
5.....	Cone.....	P32	P12	12	P4	5,000	4,000
6B.....	do.....	P64	P16	18	P8½	5,000	4,450
6C.....	do.....	P36	P14	12	P4	5,200	4,750
B.....	Gear box.....	P43	P15½	P15	P8½	7,700	5,000
C.....	do.....	P55	P15½	P15	P8½	7,800	6,250
C1.....	do.....	P68	P15½	P15	P8½	7,800	7,000
C2.....	do.....	P62	P20	P22	P12	8,400	8,000
6.....	Cone.....						

1' Vertical travel 7 inches.

REID BROTHERS CO., INC., BEVERLY, MASS.

	Weight	Price
	Pounds	
Reid No. 2-1 surface grinder, arranged for motor drive, without motor.....	1,350	\$750
Reid No. 2-1 surface grinder, belt drive, including countershaft.....	1,350	750
Reid No. 2-2 surface grinder, arranged for motor drive, without motor.....	1,550	925
Reid No. 2-2 surface grinder, belt drive, including countershaft.....	1,550	925
Reid No. 2-3 surface grinder, arranged for motor drive, without motor.....	1,200	800
Reid No. 2-3 surface grinder, belt drive, including countershaft.....	1,200	800

RHODES MACHINE CO., LYNN, MASS.

	Weight	Price
	Pounds	
1B.....		\$880

RICKERT-SHAVER CO., ERIE, PA.

Model 2 HT hand threading and tapping machine.....	\$550
Single spindle, light duty, semiautomatic threading machine.....	2,400
Single spindle, heavy duty, semiautomatic threading machine.....	2,700
Double spindle, semiautomatic threading machine.....	3,740
Die head and tap chaser grinders.....	375

BELT DRIVEN, HORIZONTAL

Size	Bench type	Column—with motor bracket	Column—oil feed—with motor bracket
3 1/8"	\$37.50	\$55	\$90
3 1/4"	42.50	65	75
1 1/2"	90.00	125	140
5/8"	105.00	140	155
			\$150
			165
			180

BELT DRIVEN, VERTICAL

Size	Without motor bracket	With motor bracket
1 1/4"	\$150	\$165
1 1/2"	425	440

MOTOR DRIVEN, HORIZONTAL

Size	Bench	Pedestal
3 1/8"	\$49.50	
3 1/4"	59.50	\$52

¹ Prices include 1/4 hp., 60 cycle, 110 volt, single-phase, 1,725 r. p. m. motor with switch, cord and plug.

RIVETT LATHE AND GRINDER, INC., BOSTON, MASS.

Grinders

No. 104 with internal bracket and spindle.....	\$2,400
No. 104 with internal-external turret and spindles.....	2,875

SPECIFICATIONS

Grinding capacity, internal—diameter smallest to maximum.....	3"
Grinding capacity, external—diameter smallest to maximum.....	3"
Center distance using tailstock flush.....	8"
Net weight, with motors and interior or exterior bracket, approximate pounds.....	1,650
Net weight with motors and interior-exterior turret, approximate pounds.....	1,850
No. 112 universal grinder with internal and external spindles.....	\$4,350
No. 112 universal grinder with internal spindle.....	\$3,800
No. 112 universal grinder with external spindle.....	\$4,000

SPECIFICATIONS

Grinding capacity, hole diameter.....	1/2" to 8"
Grinding capacity, outside diameter.....	Up to 8"
Automatic table travel.....	1/2" to 8"
Net weight—with motors and internal or external spindle..... pounds..	3,700

RIVETT LATHE AND GRINDER, INC., BOSTON, MASS.—Continued

LATHES—PRICES AND SPECIFICATIONS

LATHES—PRICES AND SPECIFICATIONS						
Style No.	Swing over bed diameter	Length of bed	Distance between centers tail stock flush	Net weight ¹	Prices	
					¾" collet capacity	1" collet capacity
505 precision bronze bearing open head bench lathe.....	8"	38½"	20"	<i>Pounds</i> 200	\$275	\$300
608 precision back geared screw cut- ting lathe ¹	8½"	40"	18¼"	350	1,260	1,385
918 ball bearing bench lathe.....	9"	39½"	18"	400	-----	450

¹ Net weight, standard attachments, mount and drive.

² With change gears.

DISCONTINUED MODELS

No. 3 grinder, discontinued in 1910; approximate net weight, 900 pounds.....	\$600
No. 103 grinder, discontinued in 1925; approximate net weight, 1,150 pounds.....	1,200
No. 6 grinder, discontinued in 1916; approximate net weight, 2,200 pounds.....	1,200
No. 106 grinder, discontinued in 1925; approximate net weight, 3,000 pounds.....	1,800

ROCKFORD IRON WORKS, ROCKFORD, ILL.

[Rockford Ironworks]

NEW ROCKFORD INCLINABLE PRESSES

	Weight	Flywheel	Weight	Geared
	Pounds		Pounds	
"A" Press.....	350	\$96.00		
"B" Press with legs.....	350	165.00		
"B" Press without legs.....	1,275	154.00		
No. 1R.....	1,890	308.00	1,350	\$544.50
No. 2R.....	2,900	423.50	2,100	665.50
No. 3R.....	4,500	528.00	3,400	786.50
No. 4R.....	7,600	726.00	4,750	995.50
No. 5R.....	7,700	1,116.50	8,750	1,325.50
No. 5 1/2 R.....	9,700	1,149.50	8,900	1,391.50
No. 6R.....	8,100	1,331.00	10,700	1,633.50
No. 6 1/2 R.....	18,500	1,496.00	8,700	1,798.50
No. 7R.....	24,000	2,420.00	20,000	2,783.00
No. 8R.....		3,025.00	25,600	3,509.00

Our No. 5 1/2 geared press has a 4" diameter crankshaft, with 5 1/4" pin; all other specifications have the same as our No. 5R.

"B" press direct motor drive, pinion, or V-belt.....	\$22.00
No. 1R direct motor drive, pinion, or V-belt.....	38.50
No. 2R direct motor drive, pinion, or V-belt.....	44.00
No. 3R direct motor drive, pinion, or V-belt.....	49.50
No. 4R direct motor drive, pinion, or V-belt.....	55.00
No. 5R direct motor drive, pinion, or V-belt.....	60.50
No. 5 1/2 R direct motor drive, pinion, or V-belt.....	60.50
No. 6R direct motor drive, pinion, or V-belt.....	66.00
No. 6 1/2 R direct motor drive, pinion, or V-belt.....	66.00
No. 7R pinion.....	71.50
No. 8R.....	82.50

Horning Press	Weight	Flywheel without table	Extra for table	Weight	Geared without table	Extra for table
	Pounds			Pounds		
No. 22R.....	2,500	\$385.00	\$121.00	2,750	\$627.00	\$121.00
No. 23R.....	3,800	638.00	137.50	4,100	896.50	137.50
No. 24R.....	6,500	940.50	176.00	7,200	1,210.00	176.00
No. 25 1/2 R.....	9,000	1,402.50	275.00	10,000	1,644.50	275.00
No. 26R.....	10,200	2,255.00	330.00	12,900	2,585.00	330.00

ROCKFORD MACHINE TOOL CO., ROCKFORD, ILL.

HY-DRAULIC SHAPER PRICES

12" Shaper.....	\$2, 540
16" Shaper.....	3, 080
20" Shaper.....	3, 265
24" Standard Shaper.....	3, 450
24" Heavy Shaper.....	3, 930
28" Standard Shaper.....	4, 115
36" Openside Shaper.....	5, 325

HY-DRAULIC SHAPER-PLANER PRICES

24" x 24" x 66".....	10, 225
24" x 24" x 90".....	10, 830
24" x 24" x 120".....	11, 615
24" x 24" x 144".....	12, 220

HY-DRAULIC PLANER PRICES

36" x 36" x 10' Openside Planer.....	15, 730
Each 2 feet to table length Planer.....	1, 330
36" x 36" x 10' Double Housing Planer.....	17, 300
Each 2 feet to table length.....	1, 330
42" x 42" x 10' Openside Planer.....	17, 790
Each 2 feet to table length.....	1, 450
42" x 42" x 10' Double Housing Planer.....	18, 995
Each 2 feet to table travel.....	1, 450

ADDITIONS TO PREVIOUS PRICES

Type	Weight	Price
	<i>Pounds</i>	
20" Rockford Hy-Draulic Slotter.....	34, 000	\$18, 150

TYPES DISCONTINUED BECAUSE OF EMERGENCY

48" x 48" x 10' Openside Hy-Draulic Planer.....	42, 000	\$22, 385
Each 2' additional table length.....		1, 570
48" x 48" x 10' Double Housing Hy-Draulic Planer.....	46, 000	20, 570
Each 2' additional table length.....		1, 570

TYPES DISCONTINUED PREVIOUS TO PRESENT EMERGENCY

[These gear-driven shapers of obsolete type were discontinued and not replaced in regular production. Prices given are as of January 1st, 1937]

Type machine	Approximate weight	1937 price
	<i>Pounds</i>	
16" Mechanical Shaper.....	4, 100	\$1, 950
20" Standard Shaper.....	4, 200	2, 040
20" Heavy Duty Shaper.....	4, 800	2, 150
24" Standard Shaper.....	4, 900	2, 230
24" Heavy Duty Shaper.....	6, 200	2, 450
28" Standard Shaper.....	6, 250	2, 575

ROGERS MACHINE WORKS, INC., ALFRED, N. Y.

ROGERS VERTICAL TURRET LATHE

36 inch vertical turret lathe with side head, price, \$4,850; weight, 7,600 pounds.

THE ROWBOTTOM MACHINE CO., WATERBURY, CONN.

Model No. 325, Rowbottom cam milling machine complete with standard A.C. motors..... \$6, 000
 Net f. o. b. Waterbury, Conn.; weight of standard machine without skids 7,552 pounds.

Attachments available:	300
High speed milling.....	550
Cam grinding.....	700
Cross feed.....	725
Swinging arm milling.....	300
Uniform rise.....	

ROYERSFORD FOUNDRY & MACHINE CO., ROYERSFORD, PA.

EXCELSIOR SENSITIVE DRILLS

Model	Price	Model	Price
10", including column.....	\$40	14" ball bearing throughout with countershaft.....	\$140
14" with countershaft.....	76	14" ball bearing throughout, arranged for motor drive but without motor.....	140
14" arranged for motor drive but without motor.....	92		

EXCELSIOR DRILLS

21" plain.....	\$202	21" back geared, power feed, automatic stop.....	\$240
21" wheel and lever.....	222	21" motor drive, backgeared, not including motor.....	275
21" wheel and lever with automatic stop.....	232		

EXCELSIOR FOOT PRESSES

10.....	\$64	20.....	\$216
12.....	76	25.....	264
15.....	88	30 vertical adjustable bed.....	400
18.....	100		

EXCELSIOR GRINDERS

Model:	Price
0 Babbitted bearings, with countershaft.....	\$36
1 Babbitted bearings, with countershaft.....	50
2 Babbitted bearings, with countershaft.....	63
3 Babbitted bearings, with countershaft.....	84
4 Babbitted bearings, with countershaft.....	108
5 Special low grinder, babbitted bearings.....	66
5 Special low grinder, ball bearings.....	96
8B Ball bearing polisher, machine only.....	78
8B Ball bearing polisher, head only.....	72
9 Grinding and buffing wheel stand, with countershaft.....	44
Heavy foundry grinder.....	175
Oblique grinder and polisher.....	100
Polisher.....	38

HACK SAWS

2A power, hack saw, belt driven.....	\$80
M2A Power hack saw, motor drive, not including motor.....	96

W. J. SAVAGE CO., KNOXVILLE, TENN.

SAVAGE NIBBLING MACHINES—NIBBLER TYPE

Size	Capacity	Weight	Price with standard equipment and A.C. motor
	Inch	Pounds	
No. 109.....	1/4	125	\$300
No. 218.....	3/4	1,250	590
No. 130.....	1	1,500	630
No. 212.....	3/4	1,350	745
No. 236.....	1 1/4	3,000	905
No. 336.....	3/4	4,000	1,052
No. 412.....	1 1/2	2,500	952

ROLLER DIE TYPE

	Inch	Pounds	
No. 1.....	1/4	2,700	\$1,015
No. 2.....	3/4	4,700	1,825
No. 3.....	1 1/4	7,800	2,550

THE SEBASTIAN LATHE COMPANY, CINCINNATI, OHIO

Type	Description	Swing—bed				
		12" x 4'	14" x 6'	16" x 8'	18" x 8'	20" x 8'
H	3-phase, 50 or 60 cycle, 220—400—440—or 550 volt.....	\$1,795	\$2,420	\$2,445	\$3,045	\$3,190
H	115 or 230 volt d. c.....	1,870	2,580	2,605	3,235	3,380
H	Motor and switch furnished us for fitting.....	1,755	2,370	2,395	2,970	3,115
H	Not motor drive but arranged for single friction pulley drive.....	1,710	2,310	2,335	2,895	3,040
	Extra for additional 2' of bed.....	80	100	100	120	120

Regular equipment.—Large face plate—small face plate—2 centers—wrenches—chip pan—steady rest—depth threading stop—threading dial—lever control for start and stop of friction pulley mounted on headstock with brake action for quick stop.

[All orders subject to acceptance by the Sebastian Lathe Co. All prices net crated f. o. b. cars, Cincinnati, Ohio. (See extra for export boxing and delivery New York).]

Type	Description	Swing—bed				
		12" x 4'	14" x 6'	16" x 8'	18" x 8'	20" x 8'
H	3-phase, 50 or 60 cycle, 220—400—440—or 550 volt.....	\$1,795	\$2,420	\$2,445	\$3,045	\$3,190
H	115 or 230 volt d. c.....	1,870	2,580	2,605	3,235	3,380
H	Motor and switch furnished us for fitting.....	1,755	2,370	2,395	2,970	3,115
H	Not motor drive but arranged for single friction pulley drive.....	1,710	2,310	2,335	2,895	3,040
	Extra 2' of bed.....	80	100	100	120	120

NOTE.—All prices on motor-driven lathes (except where noted) include motor, reversing switch, and wiring.

WM. SELLERS & CO., INC., PHILADELPHIA, PA.

THE FOLLOWING PRICES ARE EXCLUSIVE OF MOTORS

Machine	Type	Size	Weight	Base price	Additional length, per 2 feet	Additional vertical, per 1 foot
Horizontal Boring, Drilling, and Milling.....	Table.....	4"	Pounds 28,000	\$17,820	\$495	\$550
	do.....	5"	40,000	22,770	525	660
	Floor.....	5"	36,150	20,570	525	660
	Table.....	6"	51,500	26,510	580	715
Planer.....	Floor.....	6"	43,500	22,770	580	715
	Double housing.....	48" x 48" x 10'	42,500	14,520	760	-----
	do.....	60" x 60" x 12'	75,000	19,600	950	-----
	Open side.....	60" x 60" x 12'	84,000	24,805	1,080	-----
Boring and Turning Mill.....	do.....	60" x 60" x 12'	90,000	24,445	990	-----
	Vertical.....	48" x 48" x 10'	54,000	17,425	830	-----
	do.....	10'	133,000	32,500	-----	-----
	do.....	12'	193,000	68,250	-----	-----
	do.....	14'	210,000	73,500	-----	-----
	do.....	16'	233,000	77,000	-----	-----

THE FOLLOWING PRICES INCLUDE MOTORS

Machine	Type	Size	Weight	Base price	Additional length, per 2 feet	Additional vertical, per 1 foot
Drill Grinder.....	Dry.....	1 1/2" to 1 1/4"	100	\$285	-----	-----
	do.....	1 1/2" to 3"	1,160	990	-----	-----
Tool Grinder.....	Wet.....	2" x 1 1/4"	2,700	2,410	-----	-----
	do.....	2 1/2" x 2"	4,900	3,810	-----	-----

SENECA FALLS MACHINE COMPANY, SENECA FALLS, N. Y.

[All prices cover machines crated f. o. b. Seneca Falls, N. Y.]

STAR ENGINE LATHES

Rated swing	Distance between centers				
	24"	36"	48"	60"	84"
10 INCHES—ACTUAL SWING 10 1/4 INCHES					
Plain Change Gear.....	\$464	\$481	-----	-----	-----
Extra for Quick Change Gear Box.....	42	42	-----	-----	-----
Extra for Oil Pan.....	17	19	-----	-----	-----
(Bed length is 22 inches more than center distance.)					
12 INCHES—ACTUAL SWING 12 1/4 INCHES					
Plain Change Gear.....	520	537	\$559	\$585	-----
Extra for Quick Change Gear Box.....	65	65	65	65	-----
Extra for Oil Pan.....	25	29	36	41	-----
(Bed length is 28 inches more than center distance.)					
14 INCHES—ACTUAL SWING 14 1/4 INCHES					
Plain Change Gear.....	768	792	-----	841	\$888
Extra for Quick Change Gear Box.....	80	80	-----	80	80
Extra for Oil Pan.....	32	37	-----	46	73
(Bed length is 36 inches more than center distance.)					
12 INCH BY 18-INCH GAP WITH BRIDGE—ACTUAL SWING 12 1/4 INCHES BY 18 1/4 INCHES					
Plain Change Gear.....	-----	649	673	697	-----
Extra for Quick Change Gear Box.....	-----	65	65	65	-----
Extra for Oil Pan.....	-----	29	36	41	-----
(Bed length is 28 inches more than center distance.)					
14 INCH BY 21-INCH GAP WITH BRIDGE—ACTUAL SWING 14 1/4 INCHES BY 21 1/4 INCHES					
Plain Change Gear.....	-----	937	-----	975	1,072
Extra for Quick Change Gear Box.....	-----	80	-----	80	80
Extra for Oil Pan.....	-----	37	-----	46	-----
(Bed length is 36 inches more than center distance.)					

See notes at end of table.

SENECA FALLS MACHINE COMPANY, SENECA FALLS, N. Y.—Continued

STAR ENGINE LATHES—Continued

Rated swing	Distance between centers				
	24"	36"	48"	60"	84"
14 INCH SPECIAL TOOL ROOM LATHE—ACTUAL SWING 14½ INCHES					
Q. C. Gear.....	\$1,164	\$1,179		\$1,223	\$1,265
Extra for Oil Pan.....	29	33		42	66
(Bed length is 36 inches more than center distance.)					

For lathe with bench legs, deduct \$5 from list price.
For lathe with foot power drive (10- or 12-inch plain change gear lathes only) same price as regular.
Regular equipment includes compound rest, power cross and longitudinal.

ADDITIONAL EQUIPMENT

	10 inches	12 inches	14 inches
Draw-in chuck and 1 round collet.....	\$49.00	\$57.00	\$73.00
Draw-in chuck, hand lever with 1 round collet.....	73.00	84.00	105.00
No. 2 collets (¾ spec.).....			
Round ½" to ¾".....	each	5.00	5.00
Square ½" to ¾".....	do.	7.75	7.75
Hexagon ½" to ¾".....	do.	7.75	7.75
No. 3 collets.....			
Round ½" to ¾".....	do.		6.50
Square ½" to ¾".....	do.		9.00
Hexagon ½" to ¾".....	do.		9.00
Milling and gear-cutting attachment complete.....	285.00	341.00	412.00
Vertical feed column and vise.....	119.00	137.00	153.00
Vise only for milling attachment.....	46.00	57.00	63.50
Simplified motor drive (without motor).....	(1)	(1)	(1)
Regular motor drive (without motor) extra.....	146.00	178.00	235.00
Oil pump and piping.....	49.00	49.00	49.00
Relieving attachment.....		247.00	316.00
Taper attachment.....	119.00	137.00	174.00
Thread indicator or chasing dial.....	12.75	13.25	14.75

¹ Same price as countershaft drive.

8-INCH LO-SWING LATHES

8-inch Lo-Swing lathe with geared head, all head gears chrome-nickel steel (steel hardened) hardened steel carriage ways, gear feed, constant-speed drive, 1 power feed carriage 18 inches long, measuring device with automatic carriage-stop system, tailstock, head-stock and tailstock centers, suitable wrenches and screwdriver. Bed arranged with shelf for fitting automatic back squaring attachment.

Capacity:	Price
36 inches between centers.....	\$4,995
60 inches between centers.....	5,130
84 inches between centers.....	5,820
108 inches between centers.....	7,305
132 inches between centers.....	8,705

ADDITIONAL EQUIPMENT

Head leg and plate for mounting motor on rear of head leg, including "V" belts, guards, or on top of headstock.....	245
Chain drive, either mounting (including sprockets and chain), and oil-tight chain case.....	321
Coolant pump and piping.....	138
18-inch power-feed carriage.....	435
24-inch power-feed carriage.....	525
30-inch power-feed carriage.....	615
36-inch power-feed carriage.....	705
8-inch facing attachment to mount on carriage for diameters 0 inch to 8 inches, hand operated.....	120
8-inch single tool block only, straight or effect slide.....	215
Taper attachment bracket.....	76
Template arm.....	7
Template 12-inch blank.....	15
Single template, taper only, not form.....	26

SHELDON MACHINE COMPANY, INCORPORATED, CHICAGO, ILL.

Lathes

SHELDON 10-INCH BELT DRIVE WITH COUNTERSHAFT

Number ¹	Center distance	Weight crated	Semi-quick change gear box	Full quick change gear box	Number ¹	Center distance	Weight crated	Semi-quick change gear box	Full quick change gear box
	Inches	Pounds				Inches	Pounds		
1020-BC.....	20	350	\$264	\$314	1026-FC.....	26	450	\$298	\$348
1020-BCW.....	20	360	309	350	1026-FCW.....	26	465	343	393
1020-FC.....	20	400	280	330	1042-BC.....	42	465	336	386
1020-FCW.....	20	420	325	375	1042-BCW.....	42	480	381	431
1026-BC.....	26	400	282	332	1042-FC.....	42	515	352	402
1026-BCW.....	26	415	327	377	1042-FCW.....	42	530	397	447

SHELDON 10-INCH WITH MOTOR-DRIVE ATTACHMENT

1020-BM.....	20	425	\$300	\$350	1026-FM.....	26	525	\$334	\$384
1020-BMW.....	20	440	345	395	1026-FMW.....	26	540	379	429
1020-FM.....	20	475	316	366	1042-BM.....	42	540	372	422
1020-FMW.....	20	490	361	411	1042-BMW.....	42	555	417	467
1026-BM.....	26	475	318	368	1042-FM.....	42	580	388	438
1026-BMW.....	26	490	363	413	1042-FMW.....	42	605	433	483

¹ Add letter Q to number if full quick change gear box is wanted.

SHELDON 11-INCH WITH BELT-DRIVE COUNTERSHAFT

1124-GBC.....	24	485	\$360	\$410	1136-WBC.....	36	520	\$440	\$490
1124-GFC.....	24	525	385	435	1136-WFC.....	36	560	465	515
1136-GBC.....	36	510	390	440	1148-GBC.....	48	600	420	470
1136-GFC.....	36	550	415	465	1148-GFC.....	48	640	445	495
1124-WBC.....	24	490	410	460	1148-WBC.....	48	610	470	520
1124-WFC.....	24	535	435	485	1148-WFC.....	48	650	495	545

SHELDON 11-INCH WITH HEADSTOCK MOTOR DRIVE ATTACHMENT

1124-GBM.....	24	535	\$400	\$450	1136-WBM.....	36	570	\$480	\$530
1124-GFM.....	24	575	425	475	1136-WFM.....	36	610	505	555
1136-GBM.....	36	560	430	480	1148-GBM.....	48	640	460	510
1136-GFM.....	36	600	455	505	1148-GFM.....	48	680	485	535
1124-WBM.....	24	540	450	500	1148-WBM.....	48	660	510	560
1124-WFM.....	24	585	475	525	1148-WFM.....	48	700	535	585

SHELDON 12-INCH WITH BELT-DRIVE COUNTERSHAFT

1224-GBC.....	24	535	\$456	\$506	1236-WBC.....	36	570	\$536	\$586
1224-GFC.....	24	575	481	531	1236-WFC.....	36	610	561	611
1236-GBC.....	36	560	456	506	1248-GBC.....	48	640	516	566
1236-GFC.....	36	600	511	561	1248-GFC.....	48	680	541	591
1224-WBC.....	24	550	506	556	1248-WBC.....	48	660	566	616
1224-WFC.....	24	585	531	581	1248-WFC.....	48	700	591	641

SHELDON 12-INCH WITH HEADSTOCK MOTOR DRIVE ATTACHMENT

1224-GBM.....	24	585	\$501	\$551	1236-WBM.....	36	620	\$581	\$631
1224-GFM.....	24	625	526	576	1236-WFM.....	36	660	606	656
1236-GBM.....	36	610	531	581	1248-GBM.....	48	700	561	611
1236-GFM.....	36	650	556	606	1248-GFM.....	48	740	586	636
1224-WBM.....	24	600	551	601	1248-WBM.....	48	710	611	661
1224-WFM.....	24	635	576	626	1248-WFM.....	48	750	636	686

If any 12-inch lathe above is desired with a maximum collet capacity of 1 inch, add \$50 to the price of the lathe desired.

SHELDON MACHINE COMPANY, INCORPORATED, CHICAGO, ILL.—Con.

SHELDON CABINET BASE UNDERDRIVE LATHES

10-INCH LATHES

[Less motor]

Number	Apron	Gear box quick change	Approximate weight	Price
			Pounds	
E-1020 G	Plain	Semi	610	\$405
E-1020 GQ	do	Full	605	455
E-1020 W	Power cross feed	Semi	615	450
E-1020 WQ	do	Full	610	500
U-1020 G	Plain	Semi	665	445
U-1020 GQ	do	Full	660	495
U-1020 W	Power cross feed	Semi	670	490
U-1020 WQ	do	Full	665	540
E-1026 G	Plain	Semi	675	423
E-1026 GQ	do	Full	670	473
E-1026 W	Power cross feed	Semi	680	468
E-1026 WQ	do	Full	675	518
U-1026 G	Plain	Semi	725	463
U-1026 GQ	do	Full	720	513
U-1026 W	Power cross feed	Semi	730	508
U-1026 WQ	do	Full	725	558
E-1042 G	Plain	Semi	735	477
E-1042 GQ	do	Full	730	527
E-1042 W	Power cross feed	Semi	740	522
E-1042 WQ	do	Full	735	572
U-1042 G	Plain	Semi	785	517
U-1042 GQ	do	Full	780	567
U-1042 W	Power cross feed	Semi	790	562
U-1042 WQ	do	Full	785	612

11-INCH LATHES

E-1124 G	Plain	Semi	755	\$575
E-1124 GQ	do	Full	750	625
E-1124 W	Power cross feed	Semi	760	625
E-1124 WQ	do	Full	755	675
U-1124 G	Plain	Semi	810	610
U-1124 GQ	do	Full	805	660
U-1124 W	Power cross feed	Semi	815	660
U-1124 WQ	do	Full	810	710
E-1136 G	Plain	Semi	780	593
E-1136 GQ	do	Full	775	643
E-1136 W	Power cross feed	Semi	785	643
E-1136 WQ	do	Full	780	693
U-1136 G	Plain	Semi	810	628
U-1136 GQ	do	Full	805	678
U-1136 W	Power cross feed	Semi	815	678
U-1136 WQ	do	Full	810	728
E-1148 G	Plain	Semi	870	647
E-1148 GQ	do	Full	865	697
E-1148 W	Power cross feed	Semi	875	697
E-1148 WQ	do	Full	870	747
U-1148 G	Plain	Semi	900	682
U-1148 GQ	do	Full	895	732
U-1148 W	Power cross feed	Semi	905	732
U-1148 WQ	do	Full	900	782

12-INCH LATHES

E-1224 G	Plain	Semi	770	\$660
E-1224 GQ	do	Full	765	710
E-1224 W	Power cross feed	Semi	775	710
E-1224 WQ	do	Full	770	760
U-1224 G	Plain	Semi	825	700
U-1224 GQ	do	Full	820	750
U-1224 W	Power cross feed	Semi	830	750
U-1224 WQ	do	Full	825	800
E-1236 G	Plain	Semi	795	690
E-1236 GQ	do	Full	790	740
E-1236 W	Power cross feed	Semi	800	740
E-1236 WQ	do	Full	795	790
U-1236 G	Plain	Semi	825	730
U-1236 GQ	do	Full	820	780
U-1236 W	Power cross feed	Semi	830	780
U-1236 WQ	do	Full	825	830
E-1248 G	Plain	Semi	885	720
E-1248 GQ	do	Full	880	770
E-1248 W	Power cross feed	Semi	890	770
E-1248 WQ	do	Full	885	820
U-1248 G	Plain	Semi	915	760
U-1248 GQ	do	Full	910	810
U-1248 W	Power cross feed	Semi	920	810
U-1248 WQ	do	Full	915	860

The letter "E" or "U" before the catalog number designates the type of underneath motor drive.

SHELDON MACHINE COMPANY, INCORPORATED, CHICAGO, ILL.—Con.

SHELDON CABINET BASE UNDERDRIVE LATHES WITH PRELOADED BALL BEARING HEADSTOCK SPINDLE BEARINGS—ONE-INCH COLLET CAPACITY—1½-INCH HOLE THROUGH SPINDLE

11-INCH LATHES

[Less motor]

Number	Apron	Gear box quick change	Approximate weight	Price
			Pounds	
BB E-1124 G	Plain	Semi	755	\$740
BB E-1124 GQ	do	Full	750	790
BB E-1124 W	Power cross feed	Semi	760	790
BB E-1124 WQ	do	Full	755	840
BB U-1124 G	Plain	Semi	810	775
BB U-1124 GQ	do	Full	805	825
BB U-1124 W	Power cross feed	Semi	815	825
BB U-1124 WQ	do	Full	810	875
BB E-1136 G	Plain	Semi	780	770
BB E-1136 GQ	do	Full	775	820
BB E-1136 W	Power cross feed	Semi	785	820
BB E-1136 WQ	do	Full	780	870
BB U-1136 G	Plain	Semi	810	805
BB U-1136 GQ	do	Full	805	855
BB U-1136 W	Power cross feed	Semi	815	855
BB U-1136 WQ	do	Full	810	905
BB E-1148 G	Plain	Semi	870	800
BB E-1148 GQ	do	Full	865	850
BB E-1148 W	Power cross feed	Semi	875	850
BB E-1148 WQ	do	Full	870	900
BB U-1148 G	Plain	Semi	900	835
BB U-1148 GQ	do	Full	895	885
BB U-1148 W	Power cross feed	Semi	905	885
BB U-1148 WQ	do	Full	900	935

The letter "E" or "U" before the catalog number designates the type of underneath motor drive. Prices are less motor, but include standard equipment (single back gears, small face plate, compound rest with tool post, thread-chasing dial, centers, and necessary wrenches) reversing-drum switch, necessary belts and pulleys.

12-INCH LATHES

BB E-1224 G	Plain	Semi	770	\$828
BB E-1224 GQ	do	Full	765	878
BB E-1224 W	Power cross feed	Semi	775	878
BB E-1224 WQ	do	Full	770	928
BB U-1224 G	Plain	Semi	825	868
BB U-1224 GQ	do	Full	820	918
BB U-1224 W	Power cross feed	Semi	830	918
BB U-1224 WQ	do	Full	825	968
BB E-1236 G	Plain	Semi	795	858
BB E-1236 GQ	do	Full	790	908
BB E-1236 W	Power cross feed	Semi	800	908
BB E-1236 WQ	do	Full	795	958
BB U-1236 G	Plain	Semi	825	898
BB U-1236 GQ	do	Full	820	948
BB U-1236 W	Power cross feed	Semi	830	948
BB U-1236 WQ	do	Full	825	998
BB E-1248 G	Plain	Semi	885	888
BB E-1248 GQ	do	Full	880	938
BB E-1248 W	Power cross feed	Semi	890	938
BB E-1248 WQ	do	Full	885	988
BB U-1248 G	Plain	Semi	915	928
BB U-1248 GQ	do	Full	910	978
BB U-1248 W	Power cross feed	Semi	920	978
BB U-1248 WQ	do	Full	915	1,028

The letter "E" or "U" before the catalog number designates the type of underneath motor drive. Prices are less motor, but include standard equipment (single back gears, small face plate, compound rest with tool post, thread-chasing dial, centers, and necessary wrenches) reversing-drum switch, necessary belts and pulleys.

SHELDON MACHINE COMPANY, INCORPORATED, CHICAGO, ILL.—Con.

PRICE LIST SHELDON CABINET BASE UNDERDRIVE LATHES WITH PRECISION TIMKEN ROLLER BEARING HEADSTOCK SPINDLE BEARINGS—ONE-INCH COLLET CAPACITY—1½ INCH HOLE THROUGH SPINDLE

11-INCH LATHES

[Less motor]

Number	Apron	Gear box quick change	Approximate weight	Price
			Pounds	
TRB E-1124 G	Plain	Semi	755	\$740
TRB E-1124 GQ	do	Full	750	790
TRB E-1124 W	Power cross feed	Semi	760	790
TRB E-1124 WQ	do	Full	755	840
TRB U-1124 G	Plain	Semi	810	775
TRB U-1124 GQ	do	Full	805	825
TRB U-1124 W	Power cross feed	Semi	815	825
TRB U-1124 WQ	do	Full	810	875
TRB E-1136 G	Plain	Semi	780	770
TRB E-1136 GQ	do	Full	775	820
TRB E-1136 W	Power cross feed	Semi	785	820
TRB E-1136 WQ	do	Full	780	870
TRB U-1136 G	Plain	Semi	810	805
TRB U-1136 GQ	do	Full	805	855
TRB U-1136 W	Power cross feed	Semi	815	855
TRB U-1136 WQ	do	Full	810	905
TRB E-1148 G	Plain	Semi	870	890
TRB E-1148 GQ	do	Full	865	950
TRB E-1148 W	Power cross feed	Semi	875	900
TRB E-1148 WQ	do	Full	870	935
TRB U-1148 G	Plain	Semi	900	835
TRB U-1148 GQ	do	Full	895	885
TRB U-1148 W	Power cross feed	Semi	905	885
TRB U-1148 WQ	do	Full	900	935

The letter "E" or "U" before the catalog number designates the type of underneath motor drive. Prices are less motor, but include standard equipment (single back gears, small face plate, compound rest with tool post, thread-chasing dial, centers, and necessary wrenches) reversing-drum switch, necessary belts and pulleys.

12-INCH LATHES

TRB E-1224 G	Plain	Semi	770	\$828
TRB E-1224 GQ	do	Full	765	878
TRB E-1224 W	Power cross feed	Semi	775	878
TRB E-1224 WQ	do	Full	770	928
TRB U-1224 G	Plain	Semi	825	868
TRB U-1224 GQ	do	Full	820	918
TRB U-1224 W	Power cross feed	Semi	830	918
TRB U-1224 WQ	do	Full	825	968
TRB E-1236 G	Plain	Semi	795	858
TRB E-1236 GQ	do	Full	790	908
TRB E-1236 W	Power cross feed	Semi	800	908
TRB E-1236 WQ	do	Full	795	958
TRB U-1236 G	Plain	Semi	825	898
TRB U-1236 GQ	do	Full	820	948
TRB U-1236 W	Power cross feed	Semi	830	948
TRB U-1236 WQ	do	Full	825	998
TRB E-1248 G	Plain	Semi	885	888
TRB E-1248 GQ	do	Full	880	938
TRB E-1248 W	Power cross feed	Semi	890	938
TRB E-1248 WQ	do	Full	885	988
TRB U-1248 G	Plain	Semi	915	928
TRB U-1248 GQ	do	Full	910	978
TRB U-1248 W	Power cross feed	Semi	920	978
TRB U-1248 WQ	do	Full	915	1,028

The letter "E" or "U" before the catalog number designates the type of underneath motor drive. Prices are less motor, but include standard equipment (single back gears, small face plate, compound rest with tool post, thread-chasing dial, centers, and necessary wrenches) reversing-drum switch, necessary belts and pulleys.

SIBLEY MACHINE AND FOUNDRY CORPORATION, SOUTH BEND, IND.

UPRIGHT DRILLING MACHINES

	Price	Code word
STATIONARY HEAD		
20" square base, combined wheel and lever feed drill with belt power feed, automatic stop and back gears	\$315	Child.
22½" square base, complete as above	395	Chuck.
24" stationary head, geared power feed, heavy pattern complete	565	Comma.
26" stationary head, geared power feed, heavy pattern complete	615	Coach.
28" stationary head, geared power feed, heavy pattern complete	640	Canoe.
SLIDING HEAD		
24" sliding head, geared power feed, heavy pattern complete	630	Choir.
26" sliding head, geared power feed, heavy pattern complete	690	Copse.
28" sliding head, geared power feed, heavy pattern complete	730	Coral.
30" sliding head, geared power feed, complete	795	Cider.

EXTRAS WHEN FURNISHED WITH MACHINE

GEARED TAPPING ATTACHMENTS (CODE WORD: CASH)		
For 20" and 22½" drills	\$65.00	
For 24", 26", and 28" drills	105.00	
For 30" drills	105.00	
FRICTION TAPPING ATTACHMENTS (CODE WORD: CREDIT)		
For 24", 26", and 30" drills	210.00	
MOTOR DRIVE EQUIPMENT		
Drills fitted for motor drive without motors but including bracket, countershaft pulley, V-belts or gears and motor drive guards.	Code word: Cabel V-belted	Code word: Cameo geared
20" and 22½" drills	\$25.00	\$50.00
24", 26", and 28" drills	43.00	80.00
30" drills	53.00	65.00
Prices based on using standard N. E. M. A. motors and size listed in our specifications.		
SLIDING HEAD		
28" Sibley box column all-geared upright motor-driven drilling machine, 12 selective spindle speeds, 9 selective feeds, square table, mounting and wiring of electrical equipment, but not including the motor or electrical equipment	2,800.00	Bore.
Extra for motor drive coolant pump, capacity 4 gallons per minute. Complete with fittings	100.00	Boss.
Extra for Splash Guards	75.00	Boot.
Extra for 5 hp., 1,800 r.p.m., type K, frame 254, 1,800 r.p.m. 220/440-volt, 3-phase, 60-cycle, ball-bearing motor	71.00	
Extra for reversing magnetic type starting switch with relay heaters for the above motor	35.00	
WIRING		
Extra for wiring in motor and starter in armoured cable with push button station mounted on the column:		
20" and 22½" drills	16.00	
24", 26", 28", and 30" drills	18.50	
WIRE MESH BELT GUARDS		
The wire mesh belt guards completely enclosing the belting between the upper and lower cone pulleys:		
20" and 22½" drills	27.00	
24", 26", and 28" stationary head drills	37.50	
24", 26", and 28" sliding head drills	41.00	
30" sliding head drills	45.00	
LEATHER DRILL BELTS		
20" drills—2" double ply belt x 11' 6" long and ¾" single ply belt x 2' 2" long	10.50	
22½" drills—2½" double ply belt x 13¼" long and ¾" single ply belt x 3' 2" long	15.00	
24", 26", and 28" stationary head—3½" double ply belt x 13' 10"	20.00	
24", 26", and 28" sliding head—3½" double ply belt x 13' 2"	22.50	
30" sliding head drill—3" double ply belt x 16' 3" long	19.00	

SIBLEY MACHINE AND FOUNDRY CORPORATION, SOUTH BEND, IND.—Continued

EXTRAS WHEN FURNISHED WITH MACHINE—Continued

	Price	Code word
SQUARE TABLES		
Square or rectangular tables can be furnished instead of the standard round tables at the following extras:		
20" square oil groove table, 20" x 22" (working surface 14" x 16")	\$5.00	
20" extra large offset oil groove table, 28 3/4" x 28 3/4" (working surface 24" x 24")	45.00	
24", 26", 28", square oil groove table, 22" x 26" (working surface 18" x 19")	10.00	
24", 26", 28", extra large oil groove table, 28 3/4" x 40 3/4" (working surface 24" x 36")	75.00	
24", 26", 28", extra large offset oil groove table, 40 3/4" x 40 3/4" (working surface 36" x 36")	90.00	
Table jack support for all extra large tables	29.00	
24", 26", and 28" compound table	300.00	
OIL PUMP OUTFIT CODE WORD: CORK		
Complete for all machines with rotary geared pump	45.00	
Special oil pump outfits having pump with direct connected electric motor can be furnished. Price on request.		

¹ Net.

THE SIDNEY MACHINE TOOL CO., SIDNEY, OHIO
Lathes and milling machines—base prices and weights—Sidney lathes

TOOLROOM LATHE

	Net weight	Net weight additional 2-foot bed	Price	Additional 2-foot bed length
	Pounds	Pounds		
14" x 6".....	4,000	375	\$3,326	\$124
16" x 6".....	4,300	375	3,659	137
18" x 6".....	4,900	475	4,180	150
20" x 6".....	5,400	475	4,663	162

16-SPEED ENGINE LATHE

	Net weight	Net weight additional 2-foot bed	Price	Additional 2-foot bed length
	Pounds	Pounds		
14" x 6".....	4,000	375	\$2,975	\$110
16" x 6".....	4,300	375	3,299	116
18" x 6".....	4,900	475	3,753	130
20" x 6".....	5,400	475	4,239	140
24" x 10".....	11,000	850	6,410	227
27" x 10".....	11,300	850	6,865	241
30" x 12".....	16,000	1,050	8,694	324
36" x 12".....	17,000	1,050	9,138	335

12-SPEED ENGINE LATHE

	Net weight	Net weight additional 2-foot bed	Price	Additional 2-foot bed length
	Pounds	Pounds		
14" x 6".....	3,800	375	\$2,751	\$110
16" x 6".....	4,100	375	3,055	120
18" x 6".....	4,900	475	3,465	132
20" x 6".....	5,000	475	3,883	144
24" x 10".....	11,000	700	6,230	231
30" x 10".....	12,000	800	7,315	275
36" x 10".....	12,700	1,000	7,610	297

8-SPEED "MONOTROL"

	Net weight	Net weight additional 2-foot bed	Price	Additional 2-foot bed length
	Pounds	Pounds		
14" x 6".....	3,850	375	¹ \$2,755	\$108
16" x 6".....	4,150	375	3,107	116
18" x 6".....	4,675	475	3,510	130
20" x 6".....	4,775	475	3,920	142
24" x 10".....	11,000	700	6,225	227

¹ Denotes price correction. Advised by manufacturer. Differs from that shown in first edition of Prices of New Machine Tools.

THE SIDNEY MACHINE TOOL CO., SIDNEY, OHIO—Continued
Lathes and milling machines—base prices and weights—Sidney lathes—Con.

8-SPEED "TRITROL"

	Net weight	Net weight additional 2-foot bed	Price	Additional 2-foot bed length
	Pounds	Pounds		
14" x 6".....	3,850	375	\$2,735	\$108
16" x 6".....	4,150	375	3,053	116
18" x 6".....	4,675	475	3,456	130
20" x 6".....	4,775	475	3,866	142
24" x 10".....	11,000	700	6,171	227

SIGOURNEY TOOL CO., HARTFORD, CONN.

FLOOR-TYPE DRILLS

Description	Prices			
	Single spindle	2 spindle	3 spindle	4 spindle
Plain bearing, belt drive, superseded.....	\$150	\$230	\$310	\$390
Ball bearing, model No. 1, belt drive, 1/4" capacity.....	250	395	540	685
Ball bearing, model No. 1, motor drive, complete with motor, 1/4" capacity.....	395	540	690	835

SIMMONS MACHINE TOOL CORPORATION, ALBANY, N. Y.

NEW SIMMONS MICRO-SPEED TURRET SCREW MACHINE

All machines include 1 1/4 inches round-bar capacity, magnetic brake, push button reversing control, with overload and under-voltage protection.

Plain machine: Including 2 horsepower motor and control, giving spindle speeds of 375 to 1,500 revolutions per minute..... \$1,750

Plain machine: Including 3 horsepower, 2 speed motor and control, giving spindle speeds 375 to 1,500 revolutions per minute, and 188 to 750 revolutions per minute..... 1,840

Back geared machine: Including 3 horsepower motor and control, giving spindle speeds of 188 to 750 revolutions per minute in high, and 44 to 177 revolutions per minute in back gear..... 2,100

The plain machine can be arranged for maximum spindle speed of 2,100 revolutions per minute. Where power feed to turret is provided, maximum spindle speed is 750 revolutions per minute.

Extras: Power feed to turret..... 250

Longitudinal feed to cross-slide..... 75

Positive stops for longitudinal feed to cross-slide, including 4 adjustable stops..... 35

Optional equipment: Automatic chuck and wire feed; or universal 3-jaw chuck.

Condensed price list Simmons micro miller

Size	Range of feeds	Weight	Price
		Pounds	
A-1.....	34" long, 8" cross, 18" vertical Table working surface, 27" x 8"	2,400	\$2,040

NOTE.—Machine built in this one size only and price includes arranging for motor drive and including Simmons micro-speed drive unit mounted in base with built-in alternating-current motor.

SIMMONS MACHINE TOOL CORPORATION, ALBANY, N. Y.—Continued
Condensed price list Simmons micro miller—Continued

Rated size	Length of beds (feet)												
	6	8	10	12	14	16	18	20	22	24	26	28	30
16" standard engine lathe, motor in leg.....	\$2,046	\$2,145	\$2,244	\$2,310	\$2,409	\$2,508	\$2,607	\$2,700					
Boxing for export.....	72	90	107	125	143	160	178	195					
18" standard engine lathe, motor in leg.....	2,134	2,233	2,332	2,431	2,530	2,629	2,728	2,827					
Boxing for export.....	72	90	107	125	143	160	178	195					
18" heavy duty standard lathe, motor in leg.....	2,937	3,089	3,201	3,333	3,465	3,597	3,729	3,861					
Boxing for export.....	88	107	127	147	167	187	208	226	(1)	(1)	(1)	(1)	(1)
20" heavy duty standard lathe, motor in leg.....	3,050	3,190	3,322	3,454	3,586	3,718	3,850	3,982					
Boxing for export.....	88	107	127	147	167	187	206	226					
19 1/2" gap bed lathe, motor in leg.....	2,222	2,321	2,420	2,519	2,618	2,717	2,816	2,915					
Boxing for export.....	72	90	107	125	143	160	178	195					
19 1/2" gap bed lathe, motor in leg.....	2,354	2,453	2,552	2,651	2,750	2,849	2,948	3,047					
Boxing for export.....	72	90	107	125	143	160	178	195					
24" gap bed lathe, motor in leg.....	3,872	4,026	4,180	4,334	4,488	4,642	4,796	\$4,950	\$5,104	\$5,258	\$5,412	\$5,566	
Boxing for export.....	88	110	132	154	176	198	220	242	264	286	308	330	
24" sliding bed gap lathe, motor on top.....	5,005	5,192	5,379	5,566	5,753	5,940	6,127	6,314	6,501	6,688	6,875	7,062	7,249
Boxing for export.....	94	121	147	173	200	226	253	279	305	332	358	385	411
24" gap lathe, motor in leg.....		5,621	5,808	5,995	6,182	6,369	6,556	6,743	6,930	7,117	7,304	7,491	7,678
Boxing for export.....		121	147	171	198	224	250	276	303	329	355	381	407
28" sliding bed gap lathe, motor on top.....		7,656	7,953	8,250	8,547	8,844	9,141	9,438	9,735	10,032	10,329	10,626	10,923
Boxing for export.....		187	222	257	292	327	363	398	433	468	503	539	

¹ Prices on longer bed lengths for these sizes on application.

SIMPLICITY MFG. CO., PORT WASHINGTON, WIS.
Reboring and grinding machines

Model	Capacity		Weight	Price, standard equipment
	Diameter	Depth		
L.....	Inches 2 1/4 x 4 1/2	Inches 11	Pounds 140	\$475
S.....	2 3/4 x 5 1/4	16	275	675

Extra equipment to reborer and grind foreign motors from 2 1/2"-2 3/4" in diameter, for use only with light-neg reborer and grinder..... \$250
Piston grinder with standard equipment..... 675
Piston adapters, 4 inches and larger, each..... 4
Capacity diameter, 7-inch length, 8-inch, net weight 750 pounds.

TWIN HEAD CON-ROD BORING MACHINES

Model No.	Capacity		Price, standard equipment
	Diameter	Length	
1.....	Inches 1 1/2 x 2 1/2	Inches 24	\$550
2.....	1 1/2 x 3 1/2	24	685
3.....	1 1/2 x 4	24	1,675

¹ With three-speed transmission.

Extra equipment for boring, facing, and oil grooving con-rods from 1 1/4"-1 1/2" in diameter (for use with No. 1, No. 2, and No. 3 twin-head machine)..... \$26.50

SMALLEY-GENERAL COMPANY, BAY CITY, MICH.

THREADMILLERS	
Machine No. 27 MB-1.....	\$8,850
Pot chuck.....	525
Wiring for motors.....	125
Face plate.....	690
Hydraulic power traverse.....	712
Dial indicators.....	100
Electric motors including 1-7 1/2 and 1-5 hp. multispeed type.....	1,326
Extra gears..... each.....	17
Extra hob arbors..... do.....	45
Two 24" Universal chucks.....	901
Machine No. 20 MB.....	6,050
3-jaw wedge chuck.....	1,213
Single 12" air cylinder.....	330
Open side push-out chuck.....	703
Face plate and bronze bushed bearing.....	390
Taper attachment.....	380
Tool holder.....	50
Tool holder with hand-operated cross-feed slide.....	250
Live center with face plate.....	138

SMITH & MILLS COMPANY, CINCINNATI, OHIO

SMITH & MILLS SHAPERS

Machine—Service	Back geared heavy duty					
	12"	16"	20"	25"	28"	32"
Stroke.....						
Price—Speed box single pulley belt drive.....	\$1,925	\$2,525	\$2,850	\$3,227	\$4,100	\$4,250
Price—Constant speed belt connected motor drive, not including motor (motor pulley but no base required).....	2,050	2,650	3,000	3,450	4,275	4,425
Price—V-belt motor drive, not including motor (motor base but no pulley required).....	2,050	2,650	3,000	3,450	4,275	4,425
Price—Silent chain motor drive, not including motor (motor base but no pulley required).....	2,075	2,675	3,025	3,475	4,300	4,450
Price—Flange mounted gear motor drive—price includes A. C. motor and control, 220 or 440 volts, 60 cycle, 3 phase.....	2,175	2,775	3,150	3,625	4,475	4,625
Price—Extra 1—Power rapid traverse to table cross feed individual motor drive—price includes A. C. motor and control, 220 or 440 volts, 60 cycles, 3 phase. Motor recommended, other than for flanged mounted gear motor drive, speed 1,200-1,600 r. p. m. constant.....	80	80	90	90	115	115
	2 hp.	3 hp.	5 hp.	7 1/2 hp.	10 hp.	10 hp.

¹ Shapers with motors of different current characteristics will take a special price.

Standard equipment—Single screw vise, table support, automatic forced feed oiling system, and necessary wrenches. Double screw vise optional. Table support not included as standard equipment 12" shapers and is priced \$50 extra.

Motor Drive Specifications—On flat belt connected motor driven machines, motor must be arranged for mounting with pulley on right when facing wall. Motor and control delivered to our factory will be mounted and wired. Prices on D. C. and on single phase A. C. flanged mounted gear-motor drives or other current characteristics than that named for the various sizes of shapers will be furnished on application.

SOMMER & ADAMS CO., CLEVELAND, OHIO

Cleveland No. 1 vertical milling machine.....	\$1,725
Coolant pump and motor.....	90

SOMMERFELD MACHINE COMPANY, BRADDOCK, PA.

Manufacturers of Pittsburgh Lathes

SPECIFICATIONS AND PRICE LIST

Size	27" x 36"	32" x 36"	36" x 48"	42" x 48"	50" x 90"	60" x 90"
Bed length (Standard).....feet..	10	12	14	14	18	18
Swing over ways.....inch..	30	35	37	43	54	60
Swing over compound rest.....do..	18½	23	25	29½	35	44
Distance between centers.....feet..	3	3	4	4	7½	7½
Number of spindle speeds.....	16	16	16	16	16	16
Horsepower motor required.....	10-15	15-20	20-25	25-40	30-50	30-50
Motor speed:						
80-cycle.....r. p. m..	1,200	1,200	1,200	1,200	1,200	1,200
50-cycle.....do..	1,500	1,500	1,500	1,500	1,500	1,500
Speed of drive pulley.....do..	500	300	300	400	300	300
Range of spindle speeds.....	5-34½	3-209	3	3	5-120	5-120
Hole through spindle.....inch..	2½	2½	3	3	6	6
Number of changes through quick change gear box.....	41	41	41	41	36	36
Thread range.....	1-32	1-32	1-32	1-32	1-28	1-28
Range of feeds.....	0.004-0.300	0.004-0.400	0.004-0.400	0.004-0.400	0.008-0.620	0.008-0.620
Diameter of lead screw.....inch..	1½	2½	2½	2½	3½	3½
Length of carriage on bed.....do..	39	44	48	48	63	63
Width of carriage bridge.....do..	(1)	(1)	(1)	(1)	(1)	(1)
Size of front spindle boring.....do..	(1)	(1)	(1)	(1)	(1)	(1)
Length of tail stock on bed.....inch..	22	26	32	32	44	44
Diameter of tail stock spindle.....do..	4	4½	5½	5½	8	8
Width of bed on top.....do..	27½	29	36½	36½	46	46
Depth of bed on top.....do..	17	20	20	20	22	22
Price—Standard bed (regular equipment).....	\$7,900	\$9,885	\$15,675		\$22,900	\$25,870
Price—Extra 2 foot bed.....	\$325	\$385	\$485		\$670	\$660
Price—Taper attachment.....	\$425	\$485	\$570		\$960	\$960
Coolant pump and piping.....	\$170	\$170	\$200		\$225	\$225
Oil pan—Per foot of bed.....	\$20	\$20	\$30			
Rapid traverse (without motor or control).....	\$285	\$285	\$440		\$490	\$490
Four position turret tool post.....	\$360	\$360				
Follow rest.....	\$150	\$150				
Weight—Base length.....pounds..	12,000	17,000	26,200	27,500	41,500	44,500
Weight—Boxed for export.....do..	14,000	19,500	29,100	30,400	45,000	48,000
Weight—Each additional 2 feet.....do..	1,160	1,260	1,560	1,560	2,000	2,000
Weight—Each additional 2 feet.....do..	1,360	1,460	1,750	1,750	2,200	2,200
Extra for boring—Base length.....	\$225	\$245	\$325		\$415	\$415
Extra for boring—2 feet additional.....	\$20	\$20	\$25		\$30	\$30
Dimensions of box—Standard bed.....feet..	6x12		7x16	7x16	7x20	7x20
Standard bed length.....do..	10	12	14	14	18	18
Cubic contents.....cubic feet..	432		588	588	1,050	1,050

1 Timken.

SOUTH BEND LATHE WORKS, SOUTH BEND, IND.

UNDERNEATH MOTOR-DRIVEN LATHES (WITH MOTOR AND FLOOR LEGS)

Swing over bed	Length of bed	Approximate weight crated	Price with 3-60-220 motor			Extra per foot bed
			Quick change gear lathe	Standard change gear lathe	Toolroom lathe	
	Feet	Pounds				
16"	6	2,300	\$1,299	\$1,214	\$1,651	\$30
14½"	5	1,995	1,143	1,068	1,458	30
13"	4	1,460	922	857	1,213	28
10"	3	790	590	549	849	24
10"-1" col.	3	810	732		992	24
16-24"	6	2,480	1,464	1,379		30

PEDESTAL MOTOR-DRIVEN LATHES (WITH MOTOR AND FLOOR LEGS)

16"	6	2,165	\$1,145	\$1,060	\$1,509	\$30
14½"	5	1,735	996	921	1,324	30
13"	4	1,205	806	741	1,097	28
10"	3	685	533	483	790	24
10"-1" col.	3	705	666		933	24
16-24"	6	2,325	1,295	1,210		30

SOUTH BEND LATHE WORKS, SOUTH BEND, IND.—Continued

COUNTERSHAFT DRIVEN LATHES (WITH FLOOR LEGS)

Swing over bed	Length of bed	Approximate weight crated	Price with D. F. countershaft			Extra per foot bed
			Quick change gear lathe	Standard change gear lathe	Toolroom lathe	
	Feet	Pounds				
16"	6	1,875	\$979	\$894	\$1,343	\$30
14½"	5	1,575	830	755	1,158	30
13"	4	1,060	660	595	960	28
10"	3	515	435	385	692	24
10"-1" col.	3	525	555		822	24
16-24"	6	2,035	1,115	1,030		30

1 For prices of Bench Lathes deduct \$10 from above prices.

10" UNDERNEATH-MOTOR DRIVEN BENCH LATHES WITH MOTOR AND STEEL BENCH

Swing over bed	Length of bed	Approximate weight crated	Price with 3-60-220 motor			Extra per foot bed
			Quick change gear lathe	Standard change gear lathe	Toolroom lathe	
	Feet	Pounds				
10"	3	830	\$689	\$639	\$918	\$34
10"-1" col.	3	850	822		1,061	34

10" HORIZONTAL MOTOR-DRIVEN BENCH LATHES WITH MOTOR (LESS BENCH)

10"	3	501	\$472	\$422		\$24
10"-1" col.	3	521	605			24

9" WORKSHOP HORIZONTAL MOTOR DRIVEN BENCH LATHES (LESS MOTOR AND BENCH)

Swing over bed	Length of bed	Approximate weight crated	Price less motor and bench			Extra per foot bed
			Model A	Model B	Model C	
	Feet	Pounds				
9"	3	340	\$226.50	\$166.50	\$112.50	\$24

9" WORKSHOP 12-SPEED HORIZONTAL MOTOR DRIVEN BENCH LATHES (LESS MOTOR AND BENCH)

9"	3	355	\$241.50	\$181.50	\$127.50	\$24
----	---	-----	----------	----------	----------	------

9" WORKSHOP V-BELT HORIZONTAL MOTOR DRIVEN BENCH LATHES (LESS MOTOR AND BENCH)

9"	3	340	\$240.50	\$180.50	\$126.50	\$24
----	---	-----	----------	----------	----------	------

9" WORKSHOP UNDERNEATH MOTOR DRIVEN BENCH LATHES (LESS MOTOR AND BENCH)

9"	3	380		\$215.50	\$161.50	\$24
----	---	-----	--	----------	----------	------

SOUTH BEND LATHE WORKS, SOUTH BEND, IND.—Continued
9" WORKSHOP COUNTERSHAFT DRIVEN BENCH LATHES (LESS BENCH)

Swing over bed	Length bed	Approximate weight crated	Price less motor and bench			Extra per foot bed
			Model A	Model B	Model C	
9"	Feet 3	Pounds 320	\$224.50	\$164.50	\$110.50	\$24

9" WORKSHOP PEDESTAL MOTOR DRIVEN FLOOR LEG LATHES (LESS MOTOR)

9"	3	580	\$266.50	\$206.50	\$152.50	\$24
----	---	-----	----------	----------	----------	------

9" WORKSHOP COUNTERSHAFT DRIVEN FLOOR LEG LATHES (WITH D. F. C.)

9"	3	395	\$234.50	\$174.50	\$120.50	\$24
----	---	-----	----------	----------	----------	------

9" WORKSHOP TOOLROOM PEDESTAL MOTOR DRIVEN FLOOR LEG LATHES (LESS MOTOR)

9"	3	680	\$467.00			\$26
----	---	-----	----------	--	--	------

9" WORKSHOP TOOLROOM COUNTERSHAFT DRIVEN FLOOR LEG LATHES (WITH D. F. C.)

9"	3	495	\$430.00			\$26
----	---	-----	----------	--	--	------

THE SPRINGFIELD MACHINE TOOL CO., SPRINGFIELD, OHIO

TOOLROOM LATHES

[Base price includes lathe arranged for silent chain, flat or V-belt drive with motor mounted in cabinet leg without electrical equipment but including mounting and wiring; quick change gear box with lead screw and feed rod reverse operated at right-hand side of apron, with automatic stops in either direction; oil pump in apron providing automatic lubrication for all bearings, bedways, and carriage cross slide; combined oil pump and splash lubricating system to headstock gears and main spindle bearings; ball bearings on driving shafts with precision Timken bearings on spindle; compound rest and tool post, large and small face plates, steady rest, thread-chasing dial, micrometer-chasing stop for cross feed, oil pan, cabinet leg, tailstock end, and all necessary wrenches]

Base size	14" x 6" heavy	16" x 6" heavy	18" x 6" heavy	20" x 8" medium	20" x 8" heavy	22" x 8" medium	24" x 10" heavy
Length of bed.....	6'4"	7'0"	7'6"	9'6"	8'11"	8'11"	10'
Distance between centers.....	30"	30"	30"	48"	48"	48"	48"
Swing over bed.....	16 1/4"	18 1/4"	20 1/4"	22 1/4"	24 1/4"	24 1/4"	27 1/2"
Swing over carriage.....	11 3/4"	12 3/4"	14 3/4"	16 1/4"	15"	17 1/4"	19 1/4"
Geared head lathe, 12 speed, arranged for motor drive, without electrical equipment.....	\$3,550	\$3,850	\$4,500	\$4,800			\$7,200
Geared head lathe, 16 speed, arranged for motor drive, without electrical equipment.....			\$4,600	\$4,950	\$5,600	\$5,900	\$7,300
Extra for helical gears.....			\$50	\$50			\$100
Motor drive horsepower recommended.....	3-5	5	5-7 1/2	5-7 1/2	10-15	10-15	10-15
Speed of motor, r. p. m.....	1,200	1,200	1,200	1,200	1,200	1,200	1,200
Deduct for single pulley drive instead of motor drive.....	\$100	\$100	\$100	\$100	\$100	\$100	\$100
3-step cone double back gear lathe with countershaft.....	\$2,400	\$2,700	\$3,300	\$3,800			

THE SPRINGFIELD MACHINE TOOL CO., SPRINGFIELD, OHIO—Con.

TOOLROOM LATHES—Continued

Base size	14" x 6" heavy	16" x 6" heavy	18" x 6" heavy	20" x 8" medium	20" x 8" heavy	22" x 8" medium	24" x 10" heavy	27" x 10" medium	30" x 10" medium	36" x 12"	42" x 12"
Length of bed.....	6'4"	7'0"	7'6"	9'6"	8'11"	8'11"	10'	10'	10'	12'	12'
Distance between centers.....	30"	30"	30"	48"	48"	48"	48"	48"	48"	54"	54"
Swing over bed.....	16 1/4"	18 1/4"	20 1/4"	22 1/4"	24 1/4"	24 1/4"	27 1/2"	30 1/2"	34 1/2"	37"	42 1/4"
Swing over carriage.....	11 3/4"	12 3/4"	14 3/4"	16 1/4"	15"	17 1/4"	19 1/4"	21"	23 1/2"	24 1/4"	31"

QUICK CHANGE GEAR LATHE

[Are regularly equipped with quick-change gear, one cabinet leg and one plain leg, compound rest, steady rest, thread-chasing dial, large and small face plates, micrometer thread depth stop, Timken precision bearings on spindle, combined oil pump and splash lubricating system to headstock gears and main spindle bearings; oil pump in apron providing automatic lubrication for all bearings, bedways, and carriage cross slide; round tool post, and necessary wrenches]

Geared head lathe, 12 speed, arranged for motor drive, without electrical equipment.....	\$3,000	\$3,410	\$3,795	\$4,300			\$6,000	\$7,200	\$8,000		
Geared head lathe, 16 speed, arranged for motor drive, without electrical equipment.....			\$3,850	\$4,400		\$5,400	\$7,000	\$7,400	\$8,200		
Extra for helical gears.....			50	50	\$5,000		100	100	100		
Motor-drive horsepower recommended.....	3-5	5	5-7 1/2	5-7 1/2	10-15	10-15	10-15	10-15	10-15		
Speed of motor, r. p. m.....	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200		
Deduct for single-pulley drive instead of motor drive.....	100	100	100	100	100	100	100	100	100		
3-step cone double back gear lathe with countershaft.....	\$2,000	\$2,300	\$2,750	\$3,100							

¹ Price on the 20" x 8" was changed upon advice of manufacturer. Differs from that shown in first edition of Prices of New Machine Tools.

THE STANDARD ENGINEERING WORKS, PAWTUCKET, R. I.

HAND-MILLING MACHINES

Type	Weight	Price
	Pounds	
No. 1 standard with countershaft.....	900	\$550
No. 1 1/4 standard with countershaft.....	1,000	\$75
No. 2 standard with countershaft.....	1,165	750

STANDARD MACHINERY COMPANY, PROVIDENCE, R. I.

AUTOMATIC DROP HAMMERS

Number:	Price	Number—Continued.	Price
1/2.....	\$762	5.....	\$2,505
1.....	835	6 1/2.....	3,001
2.....	1,186	8.....	4,162
3.....	1,722	12.....	5,977
4.....	2,299		

PLAIN DROP HAMMERS

1/2.....	\$302	3.....	\$609
1.....	387	3 1/2.....	927
1 1/2.....	436	5.....	1,198
2.....	561	8.....	2,117

STANDARD MACHINERY COMPANY, PROVIDENCE, R. I.—Continued

ROTARY SWAGING MACHINES

1-A-----	\$322	5-A-----	\$1,930
2-A-----	490	6-A-----	2,700
3-A-----	720	7-A-----	5,900
4-A-----	1,200	8-A-----	9,660

ROLLING MILLS

031-----	\$866	051-----	\$1,886
0315-----	1,023	061-----	2,500
041-----	1,530	081-----	2,726

WIRE-FLATTENING MILLS

044-----	\$969	084-----	\$2,640
064-----	1,545	104-----	3,553

POWER PRESSES

2-B-----	\$360	4-J-----	\$770
3-B-----	600	5-J-----	1,575
4-B-----	790	5-S-----	164
5-B-----	1,850	7-S-----	245
6-B-----	3,600	5-S double plunger-----	714
2-J-----	345	7-S double plunger-----	1,075
3-J-----	580		

JOHN B. STEVENS, INC., NEW YORK, N. Y.

VERTICAL SLOTTER

Machine:	Price
Adjustable stroke, 0 to 4 inches (can be arranged for motor drive)-----	\$2,400

SCREW HEAD SLOTTERS

Size	Capacity	Price
1/2"-----	1/8"-1/4" Screws-----	\$350.
3/4"-----	1/4"-3/8" Screws-----	400.
	Special bushings-----	Application.

SCREW MACHINES

Number	Machine	Price
00-----	Plain wire feed (cap. 1/8"-5/16")-----	\$950.
1-----	Plain wire feed (cap. 3/8"-5/16")-----	1,150
2-----	Plain wire feed (cap. 3/4"-1 1/8")-----	1,550.

STOKERUNIT CORPORATION, MILWAUKEE, WIS.

SIMPLEX PRECISION BORING MACHINES AND SPINDLES

No. 1—Standard Machine, complete with one No. 1 spindle, base, belt guard and motor bracket, less spindle-driving motor and control-----	\$1,155
No. 1—Standard Machine, complete with two No. 1 spindles, base, belt guard and motor bracket, less spindle-driving motor and control-----	1,409
No. 1—L1 Machine, complete with one No. 1 spindle, base, belt guard and motor bracket, less spindle-driving motor and control-----	1,414
No. 1—L3 Machine, complete with one No. 3 spindle, base, belt guard and motor bracket, less spindle-driving motor and control-----	1,527
No. 1—LD Double End Machine, complete with two No. 1 spindles, base, belt guard and motor bracket, less spindle-driving motor and control-----	1,668

NOTE.—Above electrical equipment all 220-volt, 3-phase, 60-cycle.

STOKERUNIT CORPORATION, MILWAUKEE, WIS.—Continued

SPINDLES

[Including draw rod, but without sheave or quill]

No. 1-----	\$232
No. 1L-----	255
No. 3-----	291
No. 4-----	377

No. 2—Machine, complete with one No. 1 spindle, base, belt guard and motor bracket, less spindle-driving motor and control-----	\$1,727
No. 2B—Machine, complete with one No. 3 spindle, base, belt guard and motor bracket, less spindle-driving motor and control-----	1,850
No. 2D1—Machine (Double End), complete with two No. 1 spindles, base, belt guard and motor bracket, less spindle-driving motor and control-----	2,023
No. 2LD1—Machine (Double End), complete with two No. 1 spindles, base, belt guard and motor bracket, less spindle-driving motor and control-----	2,227
No. 2LD3—Machine (Double End), complete with two No. 3 spindles, base, belt guard and motor bracket, less spindle-driving motor and control-----	2,436
Series 200—Double End, complete with electrical control only and facing feed, but without spindles or spindle-driving motors-----	2,309

NOTE.—Motors quoted to suit spindle requirements. Spindles at prices as per section 1.

Motors and control for Series 200 machine 220/440-volt, 3-phase, 60-cycle:	
With two No. 3 spindles-----	327
With four No. 3 spindles-----	400

NOTE.—Above electrical equipment all 220/440-volt, 3-phase, 60-cycle.

SIMPLEX UNIT TYPE PRECISION BORING MACHINES

[All electrical equipment, 220/440 volt, 3 phase, 60-cycle, with 110-volt control circuit. Other current extra]

1 Way 2U machine, hydraulic feed with one No. 3 spindle, all motors and electrical control (less coolant pump)-----	\$3,159
2 Way 2U machine, hydraulic feed with two No. 3 spindles, all motors and electrical control (less coolant pump)-----	5,409
3 Way 2U machine, hydraulic feed with three No. 3 spindles, all motors and electrical control (less coolant pump)-----	7,227
1 Way 3U machine, hydraulic feed with one No. 3 spindle, all motors and electrical control (less coolant pump)-----	3,477
2 Way 3U machine, hydraulic feed with two No. 3 spindles, all motors and electrical control (less coolant pump)-----	4,545
3 Way 3U machine, hydraulic feed with three No. 3 spindles, all motors and electrical control (less coolant pump)-----	8,182
1 Way 4U machine, hydraulic feed with one No. 4 spindle, all motors and electrical control (less coolant pump)-----	3,864
2 Way 4U machine, hydraulic feed with two No. 4 spindles, all motors and electrical control (less coolant pump)-----	6,432
3 Way 4U machine, hydraulic feed with three No. 4 spindles, all motors and electrical control (less coolant pump)-----	9,341
No. 2U—Knee type precision boring machine, complete with one No. 3 spindle, motors and control (less coolant pump)-----	4,477
Additional for length bars and indicators-----	500
No. 3U—Knee type precision boring machine, complete with one No. 3 spindle, motors and control (less coolant pump)-----	5,114
Additional for length bars and indicators-----	545
Coolant pump and piping for all machines-----	109

STOKERUNIT CORPORATION, MILWAUKEE, WIS.—Continued

ACCESSORIES

Quill for No. 1 and No. 1L spindles (solid for 1 tool).....	\$22
Quill for No. 3 spindle (solid for 1 tool).....	31
Quill for No. 4 spindle (solid for 1 tool).....	44
Feed change gears.....per pair.....	7
One pair sheaves and belt (any ratio):	
No. 1 and No. 1L spindle.....	10
No. 3 spindle.....	15
Unit boring machine.....	15
Coolant pump and tank, 220-volt, A. C.....	109
Magnetic brake for motor:	
No. 1, 2, and unit boring machine.....per motor.....	59
No. 3 machine.....per motor.....	84
Tool setting indicator and bracket with jewel bearing indicator reading to one ten-thousandths inch.....	109

TOOLS

Tungsten Carbide:	
$\frac{1}{8}$ " to $\frac{3}{16}$ ".....each.....	7
Over $\frac{3}{16}$ " to $\frac{1}{2}$ ".....do.....	9
Diamond boring or turning tools according to weight of stone. Approximately.....	31-45

ELECTRICAL EQUIPMENT—FOR NOS. 1 AND 2 MACHINE

220-volt, 3-phase, 60-cycle, A. C., subject to change as electrical manufacturers prices are changed. 440-volt, 3-phase, 60-cycle—\$40 extra, on all machines. Other voltage, frequency, and phase quoted on request.

For No. 1 and No. 1L and No. 2 single spindle machines, $\frac{1}{2}$ hp. motor and control.....	\$55
For No. 1, No. 1L and No. 2 two spindle machines, 1 hp. motor and control.....	67
For No. 1L3 and 2B single spindle machines, motor and control.....	78
For No. 1L3 and 2B two spindle machines, motor and control.....	91
For No. 1, 2D1 and 2LD1 double end machines with two No. 1 spindles.....	210
For No. 1, 2D1 and 2LD1 double end machines with 4 No. 1 spindles.....	241
For No. 2LD3 double end machines with two No. 3 spindles.....	241
For No. 2LD3 double end machines with four No. 3 spindles.....	273

STORM MANUFACTURING CO. INC., MINNEAPOLIS, MINN.

PISTON GRINDER

Model DE-2.....	\$1,090
-----------------	---------

THE STREINE TOOL & MANUFACTURING CO., NEW BREMEN, OHIO

UNDERDRIVEN POWER SQUARING SHEARS

Capacity mild steel	Length of shear blades	Hp. of motor	Approximate weight	Price
	<i>Inches</i>		<i>Pounds</i>	
$\frac{1}{4}$ -inch.....	38	5	6,500	\$1,485
	50	5	7,500	1,750
	62	$7\frac{1}{2}$	8,500	1,941
	74	$7\frac{1}{2}$	9,500	2,169
	98	10	16,000	2,931
	127	10	20,000	3,502
$\frac{3}{8}$ -inch.....	146	10	24,000	4,225
	38	5	5,800	1,294
	50	5	7,000	1,523
	62	$7\frac{1}{2}$	8,100	1,713
	74	$7\frac{1}{2}$	8,700	1,941
	98	10	15,000	2,664
	127	10	17,000	3,197
	146	10	22,000	3,806

THE STREINE TOOL & MANUFACTURING CO., NEW BREMEN, OHIO—Continued

UNDERDRIVEN POWER SQUARING SHEARS—Continued

Capacity mild steel	Length of shear blades	Hp. of motor	Approximate weight	Price
	<i>Inches</i>		<i>Pounds</i>	
10-gage.....	38	5	4,200	\$1,141
	50	5	5,000	1,294
	62	5	5,500	1,370
	74	5	6,800	1,599
	98	$7\frac{1}{2}$	11,000	2,132
	127	$7\frac{1}{2}$	14,000	2,664
12-gage.....	146	$7\frac{1}{2}$	18,000	3,464
	38	3	3,100	989
	50	3	3,700	1,141
	62	3	3,900	1,294
	74	5	5,600	1,446
	98	5	8,000	1,979
	127	$7\frac{1}{2}$	9,800	2,436
	146	$7\frac{1}{2}$	15,000	3,045

Standard equipment includes one set of solid four-edge high carbon tool-steel knives, front gage, side gage, front support arms, and micrometer back gage, V belt, motor sheave, flywheel guard, and knife guard. All shears up to and including 98 inches long are furnished with 24-inch back gage, longer shears are furnished with 30-inch back gages as standard equipment. 36-inch long gages will be quoted as an extra. Standard lubrication is alemite.

Prices of high carbon, high chrome shear blades are furnished on application.

OVERDRIVEN POWER GAP SHEARS (POSITIVE PIN TYPE CLUTCH)

Capacity mild steel	Length of shear blades	Hp. of motor	Approximate weight	Price	Extra	
					24-inch cap	36-inch cap
	<i>Inches</i>		<i>Pounds</i>			
$\frac{1}{8}$ -inch.....	50	20	27,000	\$5,040	\$400	\$800
	62	20	33,000	5,880	400	800
	74	20	40,000	6,580	400	800
	98	25	45,000	7,700	400	800
	127	25	50,000	8,320	400	900
	146	25	55,000	10,640	400	900
$\frac{1}{4}$ -inch.....	50	15	17,000	3,710	300	600
	62	15	20,000	4,270	300	600
	74	15	30,000	4,760	300	600
	98	20	38,000	5,600	300	600
	127	20	45,000	5,440	300	600
	146	20	60,000	7,590	400	800
$\frac{3}{8}$ -inch.....	50	10	14,000	2,682	250	550
	62	10	16,000	3,117	250	550
	74	10	18,500	3,552	250	550
	98	15	30,000	4,132	250	550
	127	15	36,000	4,785	300	600
	146	15	40,000	5,365	300	600
$\frac{1}{2}$ -inch.....	156	15	45,000	6,887	300	600
	50	5	11,000	2,030	200	450
	62	$7\frac{1}{2}$	13,000	2,247	200	450
	74	$7\frac{1}{2}$	15,000	2,718	200	450
	98	10	19,000	3,335	200	450
	127	10	23,000	3,842	200	450
$\frac{3}{4}$ -inch.....	146	10	25,000	4,567	250	500
	156	10	39,000	5,800	250	500
	50	5	8,000	1,921	200	450
	62	$7\frac{1}{2}$	11,000	2,175	200	450
	74	$7\frac{1}{2}$	13,500	2,610	200	450
	98	10	15,000	2,900	200	450
10-gage.....	127	10	20,000	3,480	200	450
	146	10	24,000	4,168	200	450
	156	10	35,000	5,075	200	475
	50	5	8,000	1,850	175	375
	62	5	10,000	2,066	175	375
	74	5	12,500	2,465	175	375
	98	$7\frac{1}{2}$	14,000	2,719	175	375
	127	$7\frac{1}{2}$	18,000	3,262	175	375
	146	$7\frac{1}{2}$	21,000	3,842	200	400
	156	$7\frac{1}{2}$	32,000	4,712	200	400

Standard equipment includes one set of solid, four-edge, high carbon, tool-steel knives, front gage, side gage, two front support arms, and micrometer back gage, V belts, motor sheave, flywheel guard, and knife guard. Shears arranged with 6-inch, 12-inch, and 18-inch gap are standard equipment. All shears up to and including 98 inches long are furnished with a 24-inch back gage; longer shears are furnished with 30-inch back gages as standard equipment. 36-inch-long gages will be quoted as an extra. All shears are arranged with a mechanical holddown as standard equipment. Standard lubrication is alemite.

Prices of high carbon, high chrome shear blades are furnished on application.

THE STREINE TOOL & MANUFACTURING CO., NEW BREMEN,
OHIO—Continued

OVERDRIVEN, TWIN DRIVE, AIR FRICTION CLUTCH SHEARS

Capacity mild steel	Length of shear blades	Horse-power of motor	Approximate weight	Strokes per minute	Price with standard gap	Extra	
						24" gap	36" gap
3/4"	Inches	Pounds					
	74	20	48,000	30	\$12,355	\$400	\$800
	98	30	55,000	30	13,321	400	800
	122	30	64,000	25	14,872	400	900
	146	30	79,000	25	16,464	400	900
5/8"	158	30	86,000	25	17,745	400	900
	170	35	96,000	25	19,390	450	950
	182	35	120,000	25	22,750	450	950
	74	20	36,000	35	7,175	400	800
	98	20	45,000	30	8,395	400	800
1/2"	122	25	60,000	30	11,700	400	900
	146	25	73,000	30	12,940	400	900
	158	25	79,000	30	14,610	400	900
	170	30	86,000	30	16,130	450	950
	74	15	32,000	40	6,375	300	600
3/8"	98	20	40,000	35	7,687	300	600
	122	20	47,500	35	8,700	300	600
	146	20	54,000	30	9,787	400	800
	158	20	60,000	30	11,025	400	800
	170	25	78,000	30	12,218	400	800
5/16"	74	10	21,000	45	4,837	250	550
	98	15	29,000	45	5,506	250	550
	122	15	35,000	40	6,250	250	550
	146	15	40,000	40	6,925	300	600
	158	15	44,000	40	8,500	300	600
7/16"	170	15	58,000	40	9,843	350	650
	74	10	18,500	40	4,500	250	550
	98	10	25,000	40	5,150	250	550
	122	15	29,000	40	5,981	250	550
	146	15	32,500	40	6,575	300	600
1/4"	158	15	42,000	40	7,775	300	600
	170	15	49,000	40	9,250	350	650
	182	20	58,000	40	10,775	350	650
	74	7 1/2	17,500	55	3,987	200	450
	98	7 1/2	20,000	55	4,200	200	450
3/16"	122	10	22,000	50	4,475	200	450
	146	10	25,000	50	5,125	200	450
	158	10	28,000	45	5,856	250	500
	170	15	37,000	45	7,150	250	500
	74	7 1/2	14,500	55	3,687	200	450
10 gage	98	7 1/2	17,500	50	4,062	200	450
	122	7 1/2	21,500	50	4,562	200	450
	146	10	25,000	45	5,362	200	450
	158	10	34,000	45	6,306	200	475
	170	15	40,000	45	7,687	200	475
	74	5	14,000	55	3,550	175	375
	98	5	15,000	50	3,906	175	375
	122	5	20,000	50	4,337	175	375
	146	7 1/2	22,000	50	5,187	200	400
	158	7 1/2	27,500	45	5,625	200	400
	170	10	33,000	45	6,206	200	400

Standard equipment includes 1 set of solid 4-edge high carbon tool steel knives, front gage, side gage, 2 front support arms and micrometer back gage, V-belts, motor sheave, flywheel guards, and knife guard. Shears arranged with 6, 12, and 18-inch gap are standard equipment. All shears up to and including 98 inches long are furnished with a 24-inch back gage; longer shears are furnished with 30-inch back gages as standard equipment. 36-inch-long gages will be quoted as an extra. All shears are arranged with an air-operated holddown as standard equipment. Standard lubrication is alemito.

\$150 extra for equipping shears with Farval one shot lubricating system.
Prices of high carbon high chrome shear blades are furnished on application.

SUNDSTRAND MACHINE TOOL CO., ROCKFORD, ILL.

MOTOR DRIVE

Type	Weight	With tail-stock	Without tail-stock
Model 8 automatic stub lathe:	Pounds		
8" x 15" centers	3,600	\$2,730	\$2,488
8" x 21" centers	3,900	2,912	2,670
8" x 28" centers	4,250	3,166	2,924
8" x 36" centers		3,366	
Model 10 automatic lathe:			
10" x 18" centers	5,050	3,830	3,491
10" x 22" centers	5,500	4,023	3,684
10" x 34" centers	6,400	4,485	4,146
10" x 46" centers			
Model 12 automatic lathe:			
12" x 18" centers	5,350	4,235	3,897
12" x 22" centers	5,800	4,427	4,089
12" x 34" centers	6,650	4,889	4,551
12" x 46" centers			

Brake drum turning stub lathe, belt drive, front carriage----- \$1,635
Brake drum turning stub lathe, belt drive, front and rear carriage----- 2,135

NO. 53 DRILLING AND CENTERING MACHINE

Type	Vises	Price
4" x 12" (using Jacobs chucks) or 19" (using collets)	1	\$835
4" x 24" (using Jacobs chucks) or 31" (using collets)	2	950
4" x 36" (using Jacobs chucks) or 43" (using collets)	2	997
4" x 48" (using Jacobs chucks) or 55" (using collets)	2	1,045
4" x 60" (using Jacobs chucks) or 67" (using collets)	2	1,092
4" x 72" (using Jacobs chucks) or 79" (using collets)	2	1,139
4" x 84" (using Jacobs chucks) or 91" (using collets)	2	1,186
4" x 96" (using Jacobs chucks) or 108" (using collets)	2	1,234

DRILLING AND CENTERING MACHINE

Type	Weight	Price
4" x 24" (using Jacobs chucks) or 34" (using collets)	2	\$1,513
4" x 36" (using Jacobs chucks) or 46" (using collets)	2	1,562
4" x 48" (using Jacobs chucks) or 58" (using collets)	2	1,612
4" x 60" (using Jacobs chucks) or 70" (using collets)	2	1,661
4" x 72" (using Jacobs chucks) or 82" (using collets)	2	1,711

Type	Weight	Price
Sundstrand 2-wheel tool grinder	Pounds	
	1,090	\$635
Sundstrand 3-wheel tool grinder, type A, B, or C	1,530	855
No. 00 Rigidmil (hand feed) motor drive	1,000	1,320
No. 00 Rigidmil (hydraulic feed) motor drive	1,270	1,749
No. 0 Rigidmil (hand feed) motor drive	1,550	1,523
No. 0-12" Rigidmil (hydraulic feed) motor drive	2,055	2,100
No. 0-18" Rigidmil (hydraulic feed) motor drive	2,155	2,247
No. 1-12" Rigidmil (hydraulic feed) motor drive	2,850	2,960
No. 1-18" Rigidmil (hydraulic feed) motor drive	2,950	3,192
No. 2-18" Rigidmil (hydraulic feed) motor drive	5,200	3,932
No. 2-24" Electromil (mechanical feed) motor drive	5,300	4,072
No. 3-24" Rigidmil (horizontal) (mechanical feed) motor drive		3,712
No. 3-24" Rigidmil (vertical) (mechanical feed) motor drive		4,187

SUNDSTRAND MACHINE TOOL CO., ROCKFORD, ILL.—Continued

DRILLING AND CENTERING MACHINES—Continued

Type	Table feed	Column face to edge table	Maximum spindle to top of table	Weight	Price
	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Pounds</i>	
No. 3-A Rigidmil.	24	4	14		\$4,400
Do.	36	4	14		4,640
Do.	24	4	18		4,567
Do.	36	4	18		4,809
Do.	24	9	14		4,076
Do.	36	9	14		4,918
Do.	24	9	18		4,845
Do.	36	9	18		5,087
No. 3-C Rigidmil.	48	5.375	16		5,365
Do.	60	5.375	16		5,802
Do.	72	5.375	16		6,358
Do.	48	9.375	16		5,026
Do.	60	9.375	16		6,080
Do.	72	9.375	16		6,534
No. 4 Rigidmil.	48	3.5	16		5,535
Do.	60	3.5	16		6,025
Do.	72	3.5	16		6,522
Do.	48	7.5	16		5,797
Do.	60	7.5	16		6,249
Do.	72	7.5	16		6,703
Hydro-screw Rigidmil:					
Simplex	36		13	9,500	5,740
Do.	48		13	10,000	5,938
Do.	60		13	12,000	6,785
Do.	72		13	12,500	7,115
Duplex	36		13		7,925
Do.	48		13		8,056
Do.	60		13		8,805
Do.	72		13		9,493

Combination surface and internal link grinder, not including electrical equipment..... \$6,735

SUPERIOR MACHINE AND ENGINEERING COMPANY, DETROIT, MICH

Standard slot milling machine equipped with motor drive..... \$750
 Special high speed machine..... 875

THE TAFT-PIERCE MANUFACTURING CO., WOONSOCKET, R. I.

No. 1 precision surface grinder—5' x 12' x 12', 1,500 pounds, \$1,800.

TAYLOR & FENN CO., HARTFORD, CONN.

MILLING MACHINES

8-inch vertical milling machine with standard equipment, arranged for motor drive, but without electrical equipment..... \$1,550
 12-inch vertical milling machine with standard equipment, arranged for motor drive, but without electrical equipment..... 2,500
 4-inch duplex spline milling machine with standard equipment, arranged for motor drive, but without electrical equipment..... 2,650
 6-inch duplex spline milling machine with standard equipment, arranged for motor drive including shipper-rod master switch, standard magnetic starter, but without motor..... 3,600

TAYLOR & FENN CO., HARTFORD, CONN.—Continued

MODELS DRILLING MACHINES

[Complete with standard equipment including 1/4 horsepower alternating current, 3,450 revolutions per minute motor, switch, pushbutton and drill chuck on each head]

Number of spindles	Prices		Number of spindles	Prices	
	Bench	Floor		Bench	Floor
1.....	\$315	\$435	4.....	\$1,185	\$1,395
2.....	605	735	5.....	1,475	1,725
3.....	895	1,065	6.....	1,765	2,060

MODEL 66 DRILLING MACHINE, FLOOR TYPE

[Complete with standard equipment, hand feed, without motor-drive arrangement, motor, or electrical equipment]

Number of spindles	Price	Number of spindles	Price
1.....	\$420	4.....	\$1,330
2.....	730	5.....	1,650
3.....	1,040	6.....	1,975

GRINDERS

20-inch wet tool grinder arranged for motor drive with motor-belt guard, motor pulley and belt, but without electrical equipment..... \$305
 Fishtail cutter grinder, floor type..... 250

SURFACE GRINDERS

Size of machine	Net weight	Price	Size of machine	Net weight	Price
	<i>Pounds</i>			<i>Pounds</i>	
6 x 12 x 18.....	3,800	\$1,980	12 x 12 x 60.....	7,900	\$4,800
8 x 12 x 24.....	4,200	2,400	12 x 10 x 24.....	7,200	3,670
9 x 12 x 40.....	6,700	3,500	12 x 16 x 48.....	12,000	6,000
12 x 12 x 40.....	7,000	4,100			

THE THOMPSON GRINDER COMPANY, SPRINGFIELD, OHIO

Item No.	Width	Height under wheel	Length	Grinding wheel	Net weight	Price	Magnetic chuck	Chuck height	Chuck price	Increase vertical capacity to	Price
	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Pounds</i>		<i>Inches</i>	<i>Inches</i>		<i>Inches</i>	
1.....	6	12	18	12 x 1 1/2 x 5	3,800	\$1,980	6 x 18	3 3/4	\$115	-----	
2.....	8	12	18	12 x 1 1/2 x 5	4,000	2,120	8 x 18	4 1/4	150	-----	
3.....	8	12	24	12 x 1 1/2 x 5	4,200	2,450	8 x 24	4 1/4	160	-----	
4.....	10	12	24	12 x 1 1/2 x 5	4,400	2,710	10 x 24	4	225	-----	
5.....	12	12	24	12 x 1 1/2 x 5	4,500	3,340	12 x 24	4	275	-----	
6.....	9	12	40	12 x 2 x 5	6,700	3,500	9 x 40	4 1/4	325	-----	
7.....	9	12	60	12 x 2 x 5	7,500	4,200	9 x 60	4 1/4	600	-----	
8.....	12	12	40	12 x 2 x 5	7,000	4,100	12 x 40	4	425	-----	
9.....	12	12	60	12 x 2 x 5	7,900	4,800	12 x 60	4	650	-----	
10.....	12	10	24	20 x 2 x 8	7,200	3,970	12 x 24	4	275	-----	

Prices shown above are for machines equipped for wet grinding and with all motors, automatic starters and push buttons.

THE THOMPSON GRINDER COMPANY, SPRINGFIELD, OHIO—Con.

AUXILIARY EQUIPMENT AT EXTRA PRICE FOR B TYPE GRINDING MACHINES

- 1A. Direct current generator sets:
Motor: 3- or 2-phase, 60- or 25-cycle, 220-, 440-, 550-volt, ball bearing, 1 horsepower.
Generator: Compound wound, ball-bearing, 1/2-kilowatt capacity. Price
Complete with magnetic starter \$145
- 2A. Dust exhauster unit: Equipped with 1/4 hp. 3,600 revolutions per minute direct connected motor and steel hose. Catalog No. 9, p. 18, item 1. 175
- 3A. Automatic spark-out control: Catalog No. 9, p. 19, item 4. 300
- 4A. Automatic down feed: 0.00025 inch to 0.004 inch per wheel head reverse. Catalog No. 9, p. 19, item 2. 300
- 5A. Automatic down feed (plunge cut operations only): 0.00025 inch to 0.004 inch per table reverse. Catalog No. 9, p. 19, item 2. 300
- 6A. Coolant filter. 75

Item No.	Width	Height under wheel	Length	Grinding wheel	Net weight	Price	Magnetic chuck	Chuck height	Chuck price	Increase vertical capacity to—	Price	Increase vertical capacity to—	Price
	Inches	Inches	Inches	Inches	Pounds		Inches	Inches		Inches		Inches	
11.....	12	16	40	20x3x8	10,400	\$5,600	12x40	4	\$425	28	36	36	
12.....	12	16	48	20x3x8	12,000	6,400	12x48	4	525	28	36	36	
13.....	12	16	60	20x3x8	13,000	6,400	12x60	4	650	28	36	36	
14.....	12	16	72	20x3x8	16,400	6,800	12x72	4 1/2	775	28	36	36	\$500
15.....	14	16	40	20x3x8	11,500	6,200	14x40	4 1/2	475	28	36	36	
16.....	14	16	48	20x3x8	13,000	6,400	14x48	4 1/2	600	28	36	36	
17.....	14	16	60	20x3x8	14,000	7,400	14x60	4 1/2	750	28	36	36	
18.....	14	16	72	20x3x8	16,400	8,000	14x72	4 1/2	900	28	36	36	

Prices shown above are for machines equipped for wet grinding and with all motors, automatic starters, and push buttons, with electric elevation. 15 horsepower wheel heads.

AUXILIARY EQUIPMENT AT EXTRA PRICE FOR C TYPE GRINDING MACHINES

- 1A. Direct current generator sets:
Motor: 3- or 2-phase, 60- or 25-cycle 220-, 440-, 550-volt, ball-bearing.
1 horsepower for items 11, 12, 13, 15, 16. 1 1/2 horsepower for items 14, 18.
Generator: Compound wound ball bearing. 1/2-kilowatt capacity for items 11, 12, 13, 15, 16. 3/4-kilowatt capacity for items 14, 18.
Complete with magnetic starter: Price
Items 11, 12, 13, 15, 16. \$145
Items 14, 18. 212
- 2A. Dust exhauster unit: Equipped with 1/4 horsepower, 3,600 revolutions per minute direct connected motor and steel hose. Catalog No. 9, p. 18, item 1. 175
- 4A—Automatic down feed: 0.00025 inch to 0.004 inch per wheel head reverse. Catalog No. 9, p. 19, item 2. \$400

[Prices shown are for 25-, 40-, 50-, 60-cycle; 220-, 440-, or 550-volt; 3- or 2-phase motors, and controls. Prices on equipment for special frequencies, and direct current on application]

Item No.	Width	Height under wheel	Length	Grinding wheel	Net weight	Price	Magnetic chuck	Chuck height	Chuck price	Increase vertical capacity to—	Price	Increase vertical capacity to—	Price
	Inches	Inches	Inches	Inches	Pounds		Inches	Inches		Inches		Inches	
19.....	16	16	40	20x3x8	13,000	\$6,800	16x40	4 1/2	\$600	28	36	36	
20.....	16	16	48	20x3x8	14,000	7,400	16x48	4 1/2	675	28	36	36	
21.....	16	16	60	20x3x8	15,000	8,000	16x60	4 1/2	825	28	36	36	
22.....	16	16	72	20x3x8	17,000	8,500	16x72	4 1/2	1,000	28	36	36	
23.....	16	16	96	20x3x8	10,600	9,700	16x96	4 1/2	1,400	28	36	36	
24.....	16	16	120	20x3x8	25,000	11,570	16x120	4 1/2	1,650	28	36	36	
25.....	16	16	144	20x3x8	32,000	12,770	16x144	4 1/2	2,000	28	36	36	\$400
26.....	16	16	168	20x3x8	34,000	14,270	16x168	4 1/2	2,400	28	36	36	\$500
27.....	18	16	48	20x3x8	15,000	8,400	18x48	5	775	28	36	36	
28.....	18	16	60	20x3x8	17,000	8,900	18x60	5	950	28	36	36	
29.....	18	16	72	20x3x8	18,500	9,500	18x72	5	1,150	28	36	36	
30.....	18	16	96	20x3x8	21,000	11,100	18x96	5	1,600	28	36	36	

THE THOMPSON GRINDER COMPANY, SPRINGFIELD, OHIO—Con.

Item No.	Width	Height under wheel	Length	Grinding wheel	Net weight	Price	Magnetic chuck	Chuck height	Chuck price	Increase vertical capacity to—	Price	Increase vertical capacity to—	Price
	Inches	Inches	Inches		Pounds		Inches	Inches		Inches		Inches	
31.....	18	16	120	20x3x8	26,000	12,200	18x120	5	1,900	28	36	36	
32.....	18	16	144	20x3x8	34,000	13,400	18x144	5	2,300	28	36	36	
33.....	18	16	168	20x3x8	38,000	14,600	18x168	5 1/2	2,800	28	36	36	
34.....	20	16	48	20x3x8	16,400	9,600	20x48	5 1/2	900	28	36	36	
35.....	20	16	60	20x3x8	17,800	9,600	20x60	5 1/2	1,125	28	36	36	
36.....	20	16	72	20x3x8	19,400	10,200	20x72	5 1/2	1,350	28	36	36	
37.....	20	16	96	20x3x8	23,000	11,150	20x96	5 1/2	1,850	28	36	36	
38.....	20	16	120	20x3x8	29,000	12,350	20x120	5 1/2	2,250	28	36	36	
39.....	20	16	144	20x3x8	37,000	13,550	20x144	5 1/2	2,700	28	36	36	\$400
40.....	20	16	168	20x3x8	41,000	14,750	20x168	5 1/2	3,200	28	36	36	\$500
41.....	24	16	48	20x3x8	18,000	9,800	24x48	5 1/2	1,100	28	36	36	
42.....	24	16	60	20x3x8	18,800	10,350	24x60	5 1/2	1,350	28	36	36	
43.....	24	16	72	20x3x8	21,000	11,300	24x72	5 1/2	1,600	28	36	36	
44.....	24	16	96	20x3x8	31,000	12,550	24x96	5 1/2	2,250	28	36	36	
45.....	24	16	120	20x3x8	35,000	13,650	24x120	5 1/2	2,700	28	36	36	
46.....	24	16	144	20x3x8	40,000	15,000	24x144	5 1/2	3,200	28	36	36	
47.....	24	16	168	20x3x8	43,000	16,800	24x168	5 1/2	3,800	28	36	36	

Prices shown above are for machines equipped for wet grinding, and with all motors, automatic starters, and push buttons, with electric elevation. 15-horsepower wheel heads.

AUXILIARY EQUIPMENT AT EXTRA PRICE FOR C TYPE GRINDING MACHINES

- 2A. Dust exhauster unit: Equipped with 1/4 horsepower, 3,600 revolutions per minute direct connected motor and steel hose. Catalog No. 9, p. 18, item 1. Price
\$175
- 4A. Automatic down feed: 0.00025 inch to 0.004 inch per wheel head reverse. Catalog No. 9, p. 19, item 2. 400
- 5A. Automatic down feed (plunge cut operations only): 0.00025 inch to 0.004 inch per table reverse. Catalog No. 9, p. 19, item 2. 400
- 6A. Coolant filter. 100

MACHINES FOR GRINDING FLAT AND ROUND BROACHES

Machine size (inches)	Hand feed table and head	Automatic feed table and head	Round broach attachment with 10,000 r. p. m. spindle
6 x 48.....	\$3,500	\$5,300	\$1,500
6 x 60.....	4,100	5,900	
6 x 72.....	4,700	6,500	
12 x 48.....		7,100	
12 x 60.....		8,500	

Above prices include all motors, automatic starters, and push buttons. 1 wheel guard, 1 type 11 grinding wheel, 1 type 12 grinding wheel, 1 dial type tooth locator for hand-feed machines, 1 electric tooth locator for automatic machines, 1 set wrenches.

EXTRA AND OPTIONAL EQUIPMENT FOR FLAT BROACHES

Magnetic chuck (inches)	Tilting	Tilting and swiveling	M-G set with starter	Neutral switch
6 x 48.....	\$600	\$900	500 watt \$145	\$90
6 x 60.....	800	1,100		108
6 x 72.....	1,100	1,400		108
12 x 48.....	850	1,150		108
12 x 60.....	1,075	1,375		126

MACHINES FOR GRINDING ROUND BROACHES

Machine size (inches)	Hand swivel to wheel head	Full automatic swivel
6 x 48.....	\$3,750	\$5,250
6 x 60.....	4,300	5,800
6 x 72.....	4,950	6,450

Above prices include all motors, automatic starters, and push buttons. 1 high-speed spindle 10,000/15,000 revolutions per minute with belt and pulleys. 1 work head with drive plate, 250/800 revolutions per minute. 1 footstock with center (adjustable for taper broaches), 3 steady rests, 2 grinding wheels 3" x 1/2" x 1/2", 1 set wrenches, 1 electric tooth locator.

THE TOLEDO PIPE THREADING MACHINE CO., TOLEDO, OHIO

NO. 999 SUPER MODEL PIPE MACHINE

	Approximate shipping weights	Users' net prices
No. 999 with 6 quick-opening die heads and 1/4- to 2-inch dies (6 sets), built-in reamer and 110-volt universal motor	Pounds 473	\$350.00
No. 999 with 3 quick-opening die heads and 1/4- to 2-inch dies (6 sets), built-in reamer and 110-volt universal motor	432	309.95

2-INCH HIGH SPEED POWER PIPE MACHINE

2-inch high speed with 220-440 volt, 3-phase, 60-cycle motor	1,110	\$750.00
2-inch high speed with direct current or 1-phase, 110-220-volt, 60-cycle motor	1,110	775.00

NO. 999 STANDARD MODEL PIPE MACHINE

No. 999 with 6 nonopening die heads and 1/4- to 2-inch dies (6 sets), built-in reamer and 110-volt universal motor	434	\$275.00
No. 999 with 9 nonopening die heads and 1/4- to 2-inch dies (9 sets), built-in reamer and 110-volt universal motor (or 220-volt universal motor) (Also furnished with 220-440-volt, 3-phase motor for 60 cycles only, at same price as with universal motor).	440	287.45

NO. 1-2-4 POWER PIPE MACHINE

No. 1-2-4 with 220-440-volt, 3-phase, 60-cycle motor	2,500	\$1,400.00
No. 1-2-4 with 220-440-volt, 3-phase, 25-cycle motor	2,500	1,450.00
No. 1-2-4 with 220-volt, 1-phase, 60-cycle motor	2,500	1,475.00
No. 1-2-4 with direct current 230-volt motor	2,500	1,500.00

THE TORRINGTON CO., TORRINGTON, CONN.

SWAGING MACHINE PRICE LIST

	Price	Extra price for Texrope motor drive	Approximate price of dies, single groove, LaBelle steel
2-die machines:			Per pair
No. 00	\$150		\$7.50
No. 1	300		9.00
No. 2	575	\$75.60	10.00
No. 3	725	101.80	13.00
No. 3 1/2	1,125	109.50	16.00
No. 4	1,350	137.60	20.00
No. 4 heavy	1,425	137.60	26.00
No. 4-10	1,800	137.60	36.00
No. 5	1,150	101.80	22.00
No. 6	1,500	137.60	28.00
No. 7	1,700	137.60	34.00
4-die machines:			Per set
No. 3	1,000	101.80	30.00
No. 4	1,500	137.60	40.00

RACK AND PINION FEEDS

(For both new style and old style machines)

For No. 2 machine	\$150
For No. 3 machine	185
For No. 3 1/2 machine	200
For No. 4 machine	225

THE UNITED STATES ELECTRICAL TOOL COMPANY, CINCINNATI, OHIO

HEAVY-DUTY FLOOR GRINDER

(Pedestal)

1/2 horsepower, 8" x 1"	A	\$110
1 horsepower, 10" x 1"	B	140
1 horsepower, 10" x 1 1/4"	B	175

For other than 50- or 60-cycle, increase price 10 percent net.

MODEL 10 GRINDERS

2 horsepower, 12" x 2"	C	\$300
3 horsepower, 12" x 3"	C	345
5 horsepower, 14" x 3"	C	380
7 1/2 horsepower, 16" x 3"	C	468
7 1/2 horsepower, 18" x 3"	C	490
7 1/2 horsepower, 20" x 3"	C	545
7 1/2 horsepower, 20" x 3", 1,800 r. p. m.	C	583

For other than 50- or 60-cycle, increase price 10 percent net. For 2 horsepower and 3 horsepower, single-phase, increase price 25 percent net.

MODEL 10WG COMBINATION WET AND DRY GRINDER

3 horsepower, 12" x 2"	C	\$450
------------------------	---	-------

For other than 50- or 60-cycle, increase price 10 percent net.

MODEL 20 WIDE-TYPE GRINDERS

2 horsepower, 12" x 2"	C	\$330
3 horsepower, 12" x 3"	C	380
5 horsepower, 14" x 3"	C	425
7 1/2 horsepower, 16" x 3"	C	512
7 1/2 horsepower, 18" x 3"	C	539
7 1/2 horsepower, 20" x 3"	C	594
7 1/2 horsepower, 20" x 3", 1,800 r. p. m.	C	635

For other than 50- or 60-cycle, increase price 10 percent net. For 2 horsepower and 3 horsepower, single-phase, increase price 25 percent net.

MODEL 30 GRINDERS

7 1/2 horsepower, 16" x 3"	C	\$613
7 1/2 horsepower, 18" x 3"	C	650
7 1/2 horsepower, 20" x 3"	C	705
7 1/2 horsepower, 20" x 3", 1,800 r. p. m.	C	743
10 horsepower, 24" x 4"	C	883

For other than 50- or 60-cycle, increase price 10 percent net.

MODEL 40 GRINDERS

7 1/2 horsepower, 18" x 3"	C	\$704
7 1/2 horsepower, 20" x 3"	C	743
7 1/2 horsepower, 20" x 3", 1,800 r. p. m.	C	787
10 horsepower, 24" x 4"	C	935
15 horsepower, 24" x 4 1/2"	C	1066
20 horsepower, 30" x 5"	C	1436
20 horsepower, 30" x 3", 1,200 r. p. m.	C	1540

For other than 50- or 60-cycle, increase price 10 percent net.

MODEL 64 FOR VITRIFIED WHEELS

3 horsepower, 12" x 2"	C	\$550
5 horsepower, 14" x 3"	C	594
7 1/2 horsepower, 18" x 3"	C	666
7 1/2 horsepower, 20" x 3"	C	737

THE UNITED STATES ELECTRICAL TOOL COMPANY, CINCINNATI,
OHIO—Continued

MODEL 64 FOR HIGH-SPEED WHEELS

3 horsepower, 12" x 2"-----	C	\$605
5 horsepower, 14" x 3"-----	C	649
7½ horsepower, 18" x 3"-----	C	721
7½ horsepower, 20" x 3"-----	C	792

For other than 50- or 60-cycle, increase price 10 percent net.

MODEL 65 FOR VITRIFIED WHEELS

7½ horsepower, 18" x 3"-----	C	\$1,210
7½ horsepower, 20" x 3"-----	C	1,254
10 horsepower, 24" x 3"-----	C	1,353
15 horsepower, 30" x 3"-----	C	1,403

MODEL 65 FOR HIGH-SPEED WHEELS

7½ horsepower, 18" x 3"-----	C	\$1,265
7½ horsepower, 20" x 3"-----	C	1,309
10 horsepower, 24" x 3"-----	C	1,463
15 horsepower, 30" x 3"-----	C	1,503

For other than 50- or 60-cycle, increase price 10 percent net.

MODEL 66 FOR VITRIFIED WHEELS

5 horsepower, 16" x 2"-----	C	\$908
7½ horsepower, 18" x 3"-----	C	963
7½ horsepower, 20" x 2"-----	C	1,018
10 horsepower, 24" x 3"-----	C	1,073

MODEL 66 FOR HIGH-SPEED WHEELS

5 horsepower, 16" x 2"-----	C	\$963
7½ horsepower, 18" x 3"-----	C	1,018
7½ horsepower, 20" x 2"-----	C	1,073
10 horsepower, 24" x 3"-----	C	1,128

For other than 50- or 60-cycle, increase price 10 percent net.

MODEL 80 DOUBLE DISK GRINDER

2 horsepower, 8" disk-----	C	\$458
3 horsepower, 10" disk-----	C	504
5 horsepower, 12" disk-----	C	611
7½ horsepower, 18" disk-----	C	834
10 horsepower, 20" disk-----	C	1,111
15 horsepower, 24" disk-----	C	1,338
15 horsepower, 26" disk-----	C	1,608
20 horsepower, 30" disk-----	C	2,048

For other than 50- or 60-cycle, increase price 10 percent net. For 2 horsepower and 3 horsepower, single phase, increase price 25 percent net.

MODEL 70 COMBINATION GRINDER AND DISK GRINDER

¼ horsepower, 7" disk-----	B	\$255
1 horsepower, 8" disk-----	B	315
2 horsepower, 10" disk-----	C	414
3 horsepower, 12" disk-----	C	460
5 horsepower, 14" disk-----	C	574
7½ horsepower, 16" disk-----	C	681
7½ horsepower, 18" disk-----	C	715
7½ horsepower, 20" disk-----	C	766

The ¼ horsepower and 1 horsepower prices are for 110-220-volt, 60-cycle, single-phase or 220-440-volt, 50- or 60-cycle, 2- or 3-phase. 3 horsepower to 7½ horsepower, inclusive, prices are for 220-, 440-, 550-volt, 50- or 60-cycle, 2- or 3-phase. For other than 50- or 60-cycle, increase price 10 percent net.

THE UNITED STATES ELECTRICAL TOOL COMPANY, CINCINNATI,
OHIO—Continued

MODEL 85 BUFFER AND POLISHER

2 horsepower-----	C	\$253
3 horsepower-----	C	314
5 horsepower-----	C	330
7½ horsepower-----	C	446
10 horsepower-----	C	523
15 horsepower-----	C	633
20 horsepower-----	C	743

For other than 50- or 60-cycle, increase price 10 percent net. For 2 horsepower and 3 horsepower, single-phase, increase price 25 percent net.

MODEL 90 BUFFER AND POLISHER

2 horsepower-----	C	\$275
3 horsepower-----	C	336
5 horsepower-----	C	352
7½ horsepower-----	C	468
10 horsepower-----	C	539
15 horsepower-----	C	655
20 horsepower-----	C	765

For other than 50- or 60-cycle, increase price 10 percent net. For 2 horsepower and 3 horsepower, single-phase, increase price 25 percent net.

MODEL 95 MULTISPEED BUFFER AND POLISHER

1 horsepower-----	C	\$429
2 horsepower-----	C	468
3 horsepower-----	C	495
5 horsepower-----	C	539
7½ horsepower-----	C	622
10 horsepower-----	C	704
15 horsepower-----	C	820
20 horsepower-----	C	930

For other than 50- or 60-cycle, increase price 10 percent net.

MODEL 100 MOTOR-IN-BASE BUFFER AND POLISHER

(Single Spindle)

3 horsepower-----	C	\$450
5 horsepower-----	C	473
7½ horsepower-----	C	529
10 horsepower-----	C	585
15 horsepower-----	C	709
20 horsepower-----	C	821

For other than 50- or 60-cycle, increase price 10 percent net.

THE UNITED STATES MACHINE TOOL COMPANY, CINCINNATI, OHIO

NO. 1 U. S. IMPROVED HAND-MILLING MACHINE AND ACCESSORIES

Machine with No. 9 B. & S. taper hole in spindle, complete with wrenches, oil pot, countershaft or arranged for motor drive (without electrical equipment), and 2 micrometer dials (1 for vertical feed and 1 for cross feed), full antifriction bearing, timken bearings on spindle, with ball-bearing backshaft boxes, V-belt drive, completely guarded----- \$350
Motor and switch mounted and wired on machine. 1 horsepower 1,200 r. p. m., 220-440-volt, 60 cycle, 3-phase motor required----- 60
Other voltages—Prices on application.

When motor and starter are supplied by customer and shipped to us for mounting and wiring to machine, charge is (depending upon type of starter)----- 10 to 20
When machine is furnished for countershaft drive, flat-belt pulleys are furnished on countershaft and backshaft.

THE UNITED STATES MACHINE TOOL COMPANY, CINCINNATI,
OHIO—Continued

EXTRAS

No. 10 Brown & Sharpe taper hole in spindle.....	\$5
Milling machine flat vise, complete (opens 3¼ x 5½ inches wide by 1¼ inches deep).....	20
Swivel base vise, complete (opens 3¼ x 5½ inches wide by 1¼ inches deep).....	32
Arbor for holding cutters, ¼-, ⅜-, or 1-inch hole, No. 9 B. & S. taper shank (length from shoulder to nut, 4 inches).....	8
Arbor for holding cutters, ¼-, ⅜-, or 1-inch hole, No. 10 B. & S. taper shank (length from shoulder to nut, 4 inches).....	10
(Arbors any length and diameter can be furnished according to specifications at special prices.)	
Spring collet for holding Woodruff keyway cutters, with ½-inch straight shank No. 9 B. & S. taper.....	8
Spring collet for holding Woodruff keyway cutters, with ½-inch straight shank No. 10 B. & S. taper.....	9
No. 2 universal milling attachment.....	120
6-inch universal dividing head.....	130
8-inch universal dividing head.....	145
Extra for oil pump, tank and all attachments complete.....	45

U. S. TOOL CO., INC., AMPERE (EAST ORANGE), N. J.

U. S. MULTIMILLERS AND ACCESSORY EQUIPMENT

Item:	Price
MM-1-4 multimiller.....	\$1,500
MM-1-6 multimiller with No. 9 taper.....	1,700
MM-1-6 multimiller with No. 40 taper.....	1,725
MM-1-5-2 with automatic vertical motion, either No. 9 or No. 40 taper.....	2,550

ATTACHMENTS

Rotary attachment.....	200
Positive table return.....	50
180° rotary index table.....	160
Washout arrangement.....	15
Vertical adjustable head.....	285
Hydraulic table preloader.....	125
Heavy duty overarm support.....	75
Vises:	
MV-1.....	65
MV-2.....	75
Micrometer table stop.....	40

UNIVERSAL BORING MACHINE COMPANY, HUDSON, MASS.

3-INCH SPINDLE MACHINE

Base price: 60-inch bed, 26-inch vertical range, 27 x 58-inch table.....	\$9,625
Extras (to be added to base price):	
1. 33-inch vertical in place of 27 inch.....	275
2. 40-inch vertical in place of 27 inch.....	495
3. 72-inch bed length in place of 60 inch.....	165
4. 96-inch bed length in place of 60 inch.....	495
5. 32- x 58-inch table in place of 26- x 58 inch.....	330
6. 40- x 58-inch table in place of 26- x 58 inch.....	495
7. Complete coolant system.....	300
8. Verniers.....	200
9. Rod and dial measuring (base machine).....	680
10. Auxiliary table.....	165
11. Special low speed 11-440 r. p. m.....	110
12. Special high speed 15-1,200 r. p. m.....	265
13. Threading attachment.....	1,250

UNIVERSAL BORING MACHINE COMPANY, HUDSON, MASS.—Con.

4-INCH SPINDLE MACHINE

Base price: 72-inch bed, 36-inch vertical range, 40 x 60-inch table.....	\$15,900
Extras (to be added to base price):	
1. 48-inch vertical range in place of 36 inch.....	975
2. 60-inch vertical range in place of 36 inch.....	1,575
3. 96-inch bed length in place of 72 inch.....	675
4. 120-inch bed length in place of 72 inch.....	1,350
5. 42- x 76-inch table in place of 40- x 60-inch.....	975
6. 48- x 84-inch table in place of 40- x 60-inch.....	1,950
7. Complete coolant system.....	300
8. Verniers.....	300
9. Rod and dial measuring (base machine).....	800
10. Auxiliary table.....	165
11. Special high speed 8-1,000 r. p. m.....	600
12. 5-inch spindle head in place of 4-inch.....	500
13. Threading attachment.....	1,200

THE V. & O. PRESS CO., INC., HUDSON, N. Y.

PRESSES

Size	Plain		Geared		Size	Plain		Geared	
	Weight	Price	Weight	Price		Weight	Price	Weight	Price
	Pounds		Pounds			Pounds		Pounds	
020.....	300	\$225			22.....	2,500	\$645	2,850	\$880
00.....	350	255			22½.....	3,200	740	3,600	975
015.....	685	355			23.....	4,300	1,000	4,900	1,325
0.....	760	290			23½.....	4,500	1,000	5,200	1,285
01.....	960	330			24.....	6,000	1,250	6,700	1,600
01W.....	1,050	395			31.....	5,200	1,330	6,000	1,705
1.....	1,150	360			31½.....	6,800	1,910	7,900	2,340
1½.....	1,250	430			41.....	1,100	470		
1¾.....	1,400	450	1,700	\$640	42.....	2,400	650	2,700	855
2.....	2,000	495	2,300	695	43.....	5,750	1,100	6,550	1,340
2½.....	2,100	600	2,350	815	44.....	8,500	1,615	9,600	1,965
2¾.....	2,650	645	3,150	880	45.....	10,000	1,830	11,300	2,180
2½W.....	2,850	750	3,350	950	70.....	200	60		
3.....	3,300	710	4,100	950	71.....	300	90		
3½.....	3,600	845	4,400	1,100	72.....	450	105		
3W.....	3,800	825	4,600	1,075	73.....	625	160		
3¾.....	4,350	825	5,200	1,075	101.....	1,600	675	1,900	750
4.....	5,100	1,000	6,200	1,325	102.....	2,500	725	3,000	945
4W.....	5,500	1,200	6,600	1,550	103.....	3,300	1,275	4,100	1,525
5.....	7,500	1,200	8,800	1,550	104.....	5,600	1,550	6,700	1,875
5½.....	8,100	1,600	9,450	1,960	201.....	500	1,430		
6.....	10,500	1,870	12,300	2,245	201W.....	750	1,650		
6½.....	11,500	2,420	13,400	2,800	202.....	1,550	2,090		
6¾.....	25,000	3,600	28,000	4,050	201½.....	600	1,870		
10½.....	700	900			201½W.....	875	1,980		
11.....	1,200	1,150			202½.....	1,650	2,290		
12.....	1,800	1,350	3,050	1,590	25T.....	3,700	975		
12½.....	2,700	1,600	4,100	1,855	30T.....	4,600	1,100		
13.....	3,600	2,100	6,250	2,450	35T.....	5,600	1,250		
14.....	5,500	2,600	8,100	2,960	41N.....	1,100			
15.....	7,200	360			410.....	1,250	1,600		
20.....	1,000	495	1,950	695	314S.....	5,000	2,650		
21.....	1,650				325.....	5,375	2,650		

No. 104 V. & O. geared reducing press, \$1,875.

VAN NORMAN MACHINE TOOL CO., SPRINGFIELD, MASS.
RAM-TYPE UNIVERSAL MILLING MACHINES—PRICES AND SPECIFICATIONS

Model No.	Table travel	Saddle hand cross feed	Knee—vertical range from center line of spindle in horizontal position to top of table in lowest position	Net weight including standard equipment	Price
	Inches	Inches	Inches	Pounds	
6 (hand).....	18	5 3/4	16 1/4	1,350	\$1,350
12.....	17	6 5/8	17	1,650	2,250
22L.....	28	10	17	3,300	4,050
22LU.....	28	10	18	3,400	5,150
26.....	28	12	19	4,600	5,350
26SU.....	28	12	18	4,700	5,500
36.....	35	12	21 1/4	4,950	6,100

HORIZONTAL MILLING MACHINE

Model No.	Table travel (power)	Cross feed (power)	Vertical feed knee (power)	Net weight standard equipment	Price
	Inches	Inches	Inches	Pounds	
2LP.....	28	10	16	2,700	\$3,575
2LU.....	28	10	15	2,800	3,700
28P.....	28	10	18	4,400	4,700
28SU.....	28	10	17	4,500	5,100

Hand mill:				
Working surface of table.....	inches.....	26 x 6		
Net weight with standard equipment.....	pounds.....	1,700		
Price.....		\$1,185		
118 bed-type milling machine:				
Working surface of table.....	inches.....	34 x 10		
Longitudinal power table feed.....	do.....	18		
Net weight.....	pounds.....	3,600		
Price.....		\$3,350		
3V vertical milling machine:				
Table feed.....	inch.....	34		
Saddle—cross feed.....	do.....	12		
Knee—vertical feed.....	do.....	18		
Net weight, including standard equipment.....	pounds.....	6,550		
Price.....		\$6,925		

Obsolete machines

Equivalents

Piston grinding and turning:		
No. 88.....	}	No. 101—\$2,175.
No. 96.....		
No. 98.....		
No. 76 with automatic feeds.....		
No. 3 with automatic feeds.....	}	\$1,400.
No. 85.....		
No. 76 without automatic feed.....		
No. 76.....	}	\$1,200.
Bantam cylinder grinders, motor driven.....		
No. 2.....		No. 75—\$1,200.
No. 3 without automatic feed.....		No. 75—\$1,200.
No. 4.....		No. 75—\$1,200.
Oscillating radius:		
No. 42.....		\$7,000.
Plain horizontal mills:		
No. 0.....		No. 6.
No. 2L.....		\$3,725.
Duplex mills:		
No. 1/2.....	}	No. 12—Van Norman Ram Type Universal.
No. 10.....		
No. 2.....		No. 22L—Van Norman Ram Type Universal.
No. 3.....		No. 26—Van Norman Ram Type Universal.

VERSON ALLSTEEL PRESS COMPANY, CHICAGO, ILL.
T SERIES MAJOR PRESS BRAKES

Machine No.	Capacity	Price	Stroke maximum ¹ in standard frame reducing tonnage	Stroke maximum ¹ in standard frame maintaining tonnage	18-inch gap	2-speed gear-box
T116.....	6' x 1/4"	\$5,980	\$250	\$500	\$225	\$500
T118.....	8' x 1/4"	6,235	250	500	225	500
T1110.....	10' x 1/4"	6,505	250	500	225	500
T1112.....	12' x 1/4"	7,190	250	500	225	500
T1114.....	14' x 1/4"	7,690	250	500	225	500
T1116.....	16' x 1/4"	8,160	250	500	225	500
T34.....	4' x 3/4"	2,275	150	350	125	375
T36.....	6' x 10 gage	2,410	150	350	125	375
T38.....	8' x 12 gage	2,595	150	350	125	375
T310.....	10' x 13 gage	2,950	150	350	125	375
T312.....	12' x 14 gage	3,255	150	350	125	375
T314.....	14' x 16 gage	3,760	150	350	125	375
T316.....	16' x 18 gage	4,035	150	350	125	375
T44.....	4' x 1/4"	2,720	175	375	150	400
T46.....	6' x 3/4"	2,860	175	375	150	400
T48.....	8' x 10 gage	3,060	175	375	150	400
T410.....	10' x 12 gage	3,405	175	375	150	400
T412.....	12' x 13 gage	3,715	175	375	150	400
T414.....	14' x 14 gage	4,080	175	375	150	400
T416.....	16' x 16 gage	4,500	175	375	150	400
T54.....	4' x 3/4"	3,015	200	400	175	425
T56.....	6' x 1/4"	3,225	200	400	175	425
T58.....	8' x 3/4"	3,385	200	400	175	425
T510.....	10' x 10 gage	3,665	200	400	175	425
T512.....	12' x 11 gage	4,050	200	400	175	425
T514.....	14' x 12 gage	4,405	200	400	175	425
T516.....	16' x 13 gage	4,820	200	400	175	425
T76.....	6' x 3/4"	4,225	225	450	200	450
T78.....	8' x 1/4"	4,395	225	450	200	450
T710.....	10' x 3/4"	4,805	225	450	200	450
T712.....	12' x 9 gage	5,185	225	450	200	450
T714.....	14' x 10 gage	5,625	225	450	200	450
T716.....	16' x 11 gage	6,160	250	500	225	475
T96.....	6' x 3/4"	4,180	250	500	225	475
T98.....	8' x 1/4"	4,390	250	500	225	475
T910.....	10' x 3/4"	4,650	250	500	225	475
T912.....	12' x 9 gage	4,935	250	500	225	475
T914.....	14' x 10 gage	5,355	250	500	225	475
T916.....	16' x 11 gage	5,755	250	500	225	475

¹ Maximum stroke is 6 inches on T11 series and 4 inches on remaining series.
² Price includes Verson air counterbalance of Ram. If this feature is not desired, deduct \$375 from T1112 and \$455 from T1114 and T1116.

VERSON INTERMEDIATE SERIES PRESS BRAKES

No.	204	206	208
Tonnage capacity.....	60.....	60.....	60.....
Rated bending capacity:			
Die opening:			
2 inches.....	48" x 1/4"	48" x 1/4"	48" x 1/4"
1 1/2 inches.....	60" x 3/16"	60" x 3/16"	60" x 3/16"
1 1/4 inches.....	72" x 10 gage	78" x 10 gage	78" x 10 gage
1 inch.....	72" x 11 gage	96" x 11 gage	96" x 11 gage
3/4 inch.....	72" x 12 gage	96" x 12 gage	102" x 12 gage
1/2 inch.....	72" x 14 gage	96" x 14 gage	120" x 14 gage
Distance between housings.....	54"	78"	102"
Length of bed and ram.....	72"	96"	120"
Standard stroke.....	3"	3"	3"
Standard adjustment.....	4"	4"	4"
Die space bed to slide, stroke down adjustment up (holder removed).....	12"	12"	12"
Width of gap.....	8"	8"	8"
Strokes per minute.....	35	35	35
Size of driving motor recommended for full capacity.....	5 Hp.—1,800 r. p. m.	5 Hp.—1,800 r. p. m.	5 Hp.—1,800 r. p. m.
Type of gearing.....	Double.....	Double.....	Double.....
Type of drive.....	V-belt.....	V-belt.....	V-belt.....
Weight.....	8,000 pounds.....	11,000 pounds.....	14,400 pounds.....
Price.....	\$1,935.....	\$2,075.....	\$2,215.....

¹ Capacity limited only by bed and ram length.
 Lighter gage materials can be bent full length bed and ram.
 Standard equipment: V-belt motor-drive arrangement, including driving motor and starter, sectional-ram clamp, lower-die holder, automatic lubrication, wrenches, motorized adjustment of ram with motor and control.

VERSON ALLSTEEL PRESS COMPANY, CHICAGO, ILL.—Continued

VERSON JUNIOR SERIES PRESS BRAKES

No. 1038	\$740
No. 1050	835
No. 1062	960
No. 2038	1,020
No. 2050	1,170
No. 2062	1,295
No. 2078	1,595

The above prices include sectional-ram clamp, lower-die holder, V-belt motor drive and a 3-phase, 60-cycle, 220-440-volt, main driving motor and starter.

VERSON JUNIOR SERIES PRESS BRAKES EQUIPPED WITH SWINGING BEDS

No. 1038, bed size 3' x 9' x 52"	\$915
No. 1050, bed size 3' x 12' x 66"	1,010
No. 2038, bed size 4' x 9' x 54"	1,220
No. 2050, bed size 4' x 12' x 66"	1,370

These prices include same auxiliary equipment as listed above. The foregoing sizes are standard. Other sizes of bed depth and length will be quoted on application. Furnish complete information when requesting quotation.

ALLOWANCES

	10 series	20 series	2078
If driving motor and starter not required, deduct.....	\$41.20	\$46.40	\$58.40
EXTRAS			
If direct current motor, 115- or 230-volt is desired, deduct for alternating-current motor, and add.....	\$124.00	\$128.00	\$128.00
Variable speed drive.....	\$45.00	\$55.00	\$55.00
1 trip stop-on-top control of friction clutch.....	\$95.00	\$105.00	\$105.00
For increasing shut height up to 12".....	\$55.00	\$65.00	\$65.00
The standard bed height from floor is.....	31	31	31
Motorized ram adjustment including a 3-phase, 60-cycle, 220-440-volt, alternating-current motor, control and gear box.....	\$125.00	\$125.00	\$125.00

¹ In the case of direct current, 10 series machines require 2-horsepower motors, and "02" series 3-horsepower motors.

² If flanges are desired contact home office, furnishing complete information. If removable flange is desired such as shown in Bulletin JPB-40 contact home office furnishing complete information.

³ When increasing shut height, the bed is dropped on the housings in direct ratio to amount of increase.

⁴ Greater throat depth can be provided. Prices on application.

No. 10 series machines are equipped with bronze bushed main bearings and wrist pins. No. 20 series machines are equipped with bronze bushed main bearings, knuckles, and wrist pins. All machines have laminated shims on main and connection bearings and gibs. All prices f. o. b. factory, Chicago.

O. S. WALKER CO., WORCESTER, MASS.

SURFACE GRINDERS

Model	Capacity		Work table		Weight	Price
	Diameter	Height	Diameter	Center hole		
	Inches	Inches	Inches	Inches	Pounds	
DA.....	12	4	12	1 1/4	4,450	\$2,750
DB.....	12	4	12	1 1/4	5,250	3,250

WALKER-TURNER CO., INC.

MACHINE POWER TOOLS

Catalog No.	Machine	Weight	List price
		Pounds	
BN560 ¹	10' band saw.....	61	\$21.50
BN730	12' band saw.....	115	39.50
BN905	14' band saw.....	405	79.50
BN1135	16' band saw.....	480	105.00
D670 ¹	Drill press.....	32	19.25
D671 ¹	do.....	32	15.25
D673 ¹	do.....	32	14.25
D715	do.....	85	36.50
D902	2 spindle drill press.....	290	129.50
D904	4 spindle drill press.....	570	275.00
D935	Drill press.....	110	52.25
D936	do.....	110	60.25
D937	do.....	110	53.50
D938	do.....	110	61.50
D950	do.....	133	43.95
D951	do.....	133	44.95
L540	Lathe.....	55	19.95
L540	do.....	180	37.50
L752	do.....	180	49.50
L905	do.....	3	.80
MB1	Motor rolls.....	470	123.75
MBN935	Band saw.....	575	155.00
MBN1150	do.....	65	109.00
SF150A	Flexible shaft machine.....	65	107.50
SF150B	do.....	65	98.00
SF150C	do.....	65	85.00
SF150D	do.....	65	66.00
SF150E	do.....	65	65.00
SF150F	do.....	120	121.50
SF155A	do.....	120	120.00
SF155B	do.....	120	99.50
SF155C	do.....	120	99.50
SF155D	do.....	120	77.50
SF155E	do.....	98	36.75
SM700	Surfacer.....	158	48.50
SM705	Surfacer with bench.....	195	59.50
TA950	Tilting arbor saw.....	195	65.50
TA950B	do.....	265	79.50
TA1180	do.....	265	87.50
TA1180B	do.....	75	82.50
WAC7	Geared grinder.....		

¹ Obsolete.

WALSH PRESS & DIE COMPANY, CHICAGO, ILL.

No. 2 foot press.....	\$75
No. 0 O. B. I. press (flywheel type), on stand.....	140
No. 1/4 O. B. I. press (flywheel type).....	235
No. 1 O. B. I. press (flywheel type).....	300
No. 2 O. B. I. press (flywheel type).....	415
No. 3 O. B. I. press (flywheel type).....	585
No. 4 O. B. I. press (flywheel type).....	765
No. 5 1/4 O. B. I. press (flywheel type).....	1,175
No. 3 O. B. I. press (geared type).....	785
No. 4 O. B. I. press (geared type).....	965
No. 5 1/4 O. B. I. press (geared type).....	1,375

These prices are f. o. b. Chicago and subject to State sales tax if used in Illinois. Prices quoted are on standard presses.

THE WARNER & SWASEY CO., CLEVELAND, OHIO

Size	Swing	Weight	Selling price
	Inches	Pounds	
No. 1 electric turret lathe.....	10 1/4	1,230	\$2,190
No. 2 all geared head.....	14	2,770	3,335
No. 3 universal.....	15	3,300	4,030
No. 4 universal.....	16 1/2	3,700	4,815
No. 5 universal.....	17 3/4	5,000	4,940
1-A.....	16	5,850	5,950
2-A.....	20	7,250	7,285
3-A.....	23 1/2	8,790	8,750
3-A.....	23 1/2	8,790	9,150
4-A.....	28	14,880	10,550
4-A.....	28	14,880	10,950
4-A.....	28	15,880	13,275

MACHINES NO LONGER MANUFACTURED

Size and type—turret lathe	Last selling price	Comparative Machine No.	Net weight	Machine price
			Pounds	
No. 1 plain head, 3/8".....			750	\$1,100
No. 1 electric, 3/8".....			1,230	1,980
No. 2 plain head, 1".....			1,210	1,400
No. 2 geared friction head, 1".....			1,455	1,600
No. 2 all geared head, 1".....			2,770	3,010
No. 2 electric, 1".....			2,400	2,570
14" plain head, 1".....	\$1,145		1,200	
No. 4 plain head, 1 1/2".....	880		1,700	
14" geared friction head, 1".....	1,343		1,465	
No. 4 geared friction head, 1 1/2".....	1,250		2,150	
No. 4 universal geared friction head, 1 1/2".....	2,561		2,790	
No. 4 universal 6-speed all geared head, 1 1/2".....	2,728	3 M1200.....	2,735	4,030
No. 4 universal 12-speed all geared head, 1 1/2".....	3,168	3 M1200.....	3,035	4,030
No. 3 universal 6-speed all geared head, 1 1/2".....			3,300	4,030
No. 3 universal 12-speed all geared head, 1 1/2".....			3,700	4,815
No. 4 universal 12-speed all geared head, 2".....	3,955	4 M1420.....	3,700	4,815
16" plain head, 1 1/2".....	1,139		1,400	
16" geared friction head, 1 1/2".....	1,537		1,735	
No. 6 geared friction head, 2 1/4".....	1,295		3,200	
No. 6 double back geared friction head, 2 1/4".....	2,090		3,275	
No. 6 12-speed all geared head, 2 1/4".....		5 M1740.....	3,250	4,940
No. 6 12-speed all geared head, 2 1/4".....			5,000	5,950
1-A universal hollow hexagon, 2 1/2".....		1-A M470.....	4,500	5,950
2-A universal hollow hexagon, 2 1/2".....		2-A M510.....	4,500	7,285
2-A universal hollow hexagon, 3 1/2".....			7,250	7,285
3-A universal hollow hexagon, 3 1/2".....		2-A M510.....	8,000	7,285
3-A universal hollow hexagon, 4 1/2".....		3-A M1950.....	8,000	8,750
3-A universal hollow hexagon, 6".....			8,790	9,150

Compare old style No. 4 friction head, cone drive, to new No. 3, with a plain cross slide, at price of \$3,500.
 Compare old style No. 4 friction head, cone drive universal, with new No. 3 universal, at price of \$4,030.
 Compare old style No. 6 friction head, cone drive, to new No. 5, with plain cross slide, at price of \$4,715.
 Compare old style No. 6, universal to new No. 5 universal, at price of \$4,940.
 Compare No. 2 plain friction head to new No. 2 at price of \$3,100.
 Compare No. 2 geared friction head to new No. 2 at price of \$3,335.

WATERBURY FARREL FOUNDRY AND MACHINE COMPANY,
WATERBURY, CONN.

STANDARD SERIES A OPEN-BACK PRESSES

Machine No.	Draw- ing No.	Basic machine price	Countershaft price	Motor drive arrangements without electrical equipment	Machine No.	Draw- ing No.	Basic machine price	Countershaft price	Motor drive arrangements without electrical equipment
2.....	6112	\$405	\$44	\$121	5.....	6115	\$795	\$62	\$215
3.....	6113	465	44	155	6.....	6116	915	85	245
4.....	6114	665	49	182	7.....	6117	1,140	97	275

WATERBURY FARREL FOUNDRY AND MACHINE COMPANY,
WATERBURY, CONN.—Continued

STANDARD SERIES E PRESSES

Machine No.	Draw- ing No.	Basic machine price	Countershaft price	Motor drive arrangements without electrical equipment	Machine No.	Draw- ing No.	Basic machine price	Countershaft price	Motor drive arrangements without electrical equipment
100.....	3911	\$195	\$37	\$97	100 1/2.....	4400	\$300	\$39	\$97
100A.....	4012	212	37	97	100 1/2A.....	4413	325	39	97

STANDARD 2-POST OPEN-BACK PRESSES

11.....	6951	\$510	\$155	\$195	44.....	6954	\$1,060	\$245	\$290
22.....	6952	615	182	225	55.....	6955	1,435	275	330
33.....	6902	825	215	260					

SAFETY BENCH PRESSES

1.....	7006	\$195		\$12	1A.....	7133	\$215		\$12
--------	------	-------	--	------	---------	------	-------	--	------

STANDARD PILLAR PRESSES

31.....	4720	\$515	\$45	\$155	31A.....	4724	\$590	\$45	\$155
41 1/2.....	4721	650	50	180	41 1/2A.....	4725	710	50	180
52.....	4722	815	62	215	52.....	4726	900	62	215
63.....	4723	1,070	86	275	63.....	4727	1,215	86	275

HIGH-SPEED BLANKER

0.....	7197	\$1,325		(1)	1.....	7362	\$1,850		(1)
--------	------	---------	--	-----	--------	------	---------	--	-----

FOUR-POST PRESSES

1.....	7127	\$3,145		\$195	2W.....	7173	\$5,515		\$250
2.....	7212	4,355		250	3W.....	7081	6,890		305
3.....	6663	5,460		305					

CRANK EYELET MACHINES

100-11.....	7142	\$3,350		(1)	150-A-9.....	7228	\$11,115		(1)
150-7.....	7199	9,085			200-A-9.....	7140	17,025		
150-9.....	6981	10,285			200-A-11.....	7070	18,575		
150-11.....	7110	11,495							

STANDARD D. A. CAM PRESSES

2.....	6312	\$1,020	\$44	\$121	5.....	6315	\$2,245	\$62	\$215
3.....	6313	1,325	44	155	6.....	6316	2,790	85	245
4.....	6314	1,820	49	182	7.....	6317	3,475	97	275

(1) Included

NO. 1807, 250-TON HYDRAULIC PRESS

Press only.....	\$1,085
Hand pump or quick-operating valve.....	165
Power pump No. 4640 without electrical equipment.....	775
Total.....	2,025

WATERBURY FARREL FOUNDRY AND MACHINE COMPANY,
WATERBURY, CONN.—Continued

STD. D. A. CRANK PRESSES

Machine No.	Drawing No.	Basic machine price	Countershaft price	Motor drive arrangements without electrical equipment
2.....	6482	\$720	\$44	\$121
3.....	6483	950	44	155
4.....	6484	1,080	49	182

SEMI-AUTOMATIC EDGING AND TRIMMING LATHES

1.....	6537	\$1,805	(1)	None
2.....	6717	2,620		

STANDARD HAND LATHES

1.....	6284	\$510	(1)	None
2.....	6036	610		
3.....	4999	1,090		

SEMI-AUTOMATIC SCREW-CAP THREADER

Small.....	6664	\$1,805	(1)	None
Medium size.....	6908	2,910		

OPEN DIE DOUBLE STROKE CRANK HEADERS

11.....	6659	\$6,490	\$125	\$360
22.....	6660	8,360	140	415
33.....	6417	9,680	165	470

SOLID DIE DOUBLE STROKE ONE CYCLE TOGGLE TYPE HEADERS

0.....	3416	\$1,610	\$75	\$165
1.....	3430	2,035	100	195
2.....	3433	3,080	125	250

SOLID DIE DOUBLE STROKE TUBULAR RIVET HEADERS

0.....	3416	\$2,985	\$75	\$165
1.....	3430	3,520	100	195

TUBULAR ATTACHMENTS ONLY

0.....	3416	\$1,375		
1.....	3430	1,485		

SOLID DIE DOUBLE STROKE CRANK HEADERS

00.....	6670	\$4,180	\$100	\$305
11.....	6739	5,610	125	360
22.....	6747	7,590	135	415
33.....	6265	10,200	165	470

HI-PRO SOLID DIE DOUBLE STROKE HEADERS

3/16.....	7041	\$3,300	\$100	\$165
1/2.....	7268	6,400		195

AUTOMATIC NUT FORMING MACHINES

3.....	7194	\$14,350		
4.....	6091	16,000		

(1) Included.
(2) Includes motor drive arrangement.

WATERBURY FARREL FOUNDRY AND MACHINE COMPANY,
WATERBURY, CONN.—Continued

HORIZONTAL HAND FEED SCREW THREAD ROLLING MACHINES

Machine No.	Drawing No.	Basic machine price	Countershaft price	Motor drive arrangements without electrical equipment
10.....	7120	\$1,125	\$100	\$220
20.....	7112	1,500	125	250
30.....	7113	1,950	135	275
40.....	7114	2,750	180	275
50.....	7115	3,355	210	330
60.....	6579	4,160	220	525

AUTOMATIC INCLINED SCREW THREAD ROLLING MACHINES WITH LIFT BLADE TYPE FEED

00.....	6496	\$980		\$140
0.....	7186	1,500		165
10.....	7121	1,845	\$100	195
20.....	6382	2,145	125	360
30.....	6485	2,800	140	415

AUTOMATIC INCLINED SCREW THREAD ROLLING MACHINES WITH CHAIN HOPPER FEEDS

20.....	7122	\$4,500	\$125	\$250
30.....	7123	5,425	140	275
40.....	7124	6,930	160	275

AUTOMATIC SCREW HEAD SLOTING MACHINES

00.....	6592	\$1,135		
0.....	6310	1,185		\$90
1.....	6217	1,515		110
2.....	6306	2,365		145

AUTOMATIC BOLT HEAD TRIMMING MACHINES

1.....	6897	\$3,080	\$100	\$275
2.....	7060	4,565	125	275
2A.....	7060	5,170	125	275
3.....	6732	7,040	185	330
4.....	6753	(1)		

(1) Built to order only.

The following are list prices on standard eyelet machines, latest type, ordinarily built for stock.

No. 56, 6 plunger machine No. 5931.....	\$2,730
No. 58, 8 plunger machine No. 5925.....	3,355
No. 510, 10 plunger machine No. 5929.....	3,985
No. 106, 6 plunger machine No. 5933.....	2,965
No. 108, 8 plunger machine No. 5924.....	3,660
No. 1010, 10 plunger machine No. 5916.....	4,490
No. 126, 6 plunger machine No. 5935.....	4,045
No. 128, 8 plunger machine No. 5927.....	5,020
No. 1210, 10 plunger machine No. 5919.....	5,990
No. 156, 6 plunger machine No. 5936.....	4,825
No. 158, 8 plunger machine No. 5930.....	5,950
No. 1510, 10 plunger machine No. 5926.....	7,075

The following are list prices on standard gang slitting machines, friction clutch pulley drive, without winders.

The prices given cover the 3 sizes of machines normally built for stock.

No. 0, 12" machine No. 5049.....	\$1,265.00
No. 1, 12" machine No. 5022.....	1,457.50
No. 2, 18" machine No. 5157.....	1,732.50

FRANK L. WELLS CO., KENOSHA, WIS.

Presses		
No. 2 power punch press	-----	\$315
No. 3 power punch press	-----	572
No. 3 power punch press (built special)	-----	850
No. 3 power riveter	-----	391
No. 3½ power punch press	-----	644
No. 5½ including O. B. punch press	-----	797
No. 35 back geared 5-inch stroke press	-----	1,408
No. 34 punch press, plain	-----	974
No. 34 press, arranged for motor drive but without motor	-----	1,067
No. 8 O. B. geared press with bolster plate	-----	2,173
No. 8 O. B. plain press with bolster plate	-----	1,793

PUNCH PRESSES

Description	Size	Price	Description	Size	Price
No. 4	Inches		No. 12	Inches	
	30	\$1,662		48	\$4,774
	36	1,723		60	5,574
	42	1,800		73	5,898
No. 6	48	2,043	No. 15	Feet	
	52	2,818		10	6,082
	65	3,047		10	4,805
	73	3,247			
No. 10	82	3,287			
	65	3,529			
	73	3,834			
	84	4,032			

¹ Built lighter on same frame and parts as No. 6 with steel die beds.

WESTERN MACHINE TOOL WORKS, HOLLAND, MICH.

All prices shown below are subject to 10 percent increase

[Western radials, Chard lathes, Steptoe Shapers, Garvin tappers]

WESTERN RADIAL DRILLS

	3'	3½'	4'	4½'	5'	6'
12-speed high speed, 13" col.	\$3,285	\$3,345	\$3,405	\$3,460	\$3,530	\$3,740
6-speed high speed, 13" col.	2,990	3,050	3,110	3,165	3,230	3,450
	3', 14" col.	3½', 14" col.	4', 18" col.	5', 20" col.	6', 22" col.	7', 22" col.
Heavy duty type, arranged for motor drive, no motors	\$3,935	\$4,055	\$5,805	\$6,780	\$8,080	\$9,200
			4', 16" col.	5', 18" col.	6', 20" col.	7', 22" col.
Manufacturing type, arranged for motor drive, no motors			\$4,445	\$6,045	\$7,080	\$8,325
			4', 14" col.	5', 16" col.	6', 18" col.	7', 20" col.
Leader type, arranged for motor drive, no motors			\$4,175	\$4,645	\$6,215	\$7,325
			4', 15" col.	5', 20" col.	6', 21½" col.	
Full universal, arranged for motor drive, no motors			\$5,655	\$7,005	\$8,115	

WESTERN MACHINE TOOL WORKS, HOLLAND, MICH.—Continued

STEPTOE SHAPERS

	14" S. G.	14" B. G.	16" S. G.	16" B. G.	20" S. G.	20" B. G.	24" B. G.
Countershaft drive	\$1,770	\$1,850	\$2,105	\$2,175	\$2,405	\$2,475	\$2,780
Extra for motor drive, no motor	195	195	195	195	195	195	195
Extra for forced feed lubrication	125	125	125	125	125	125	125
Extra for rapid traverse	175	175	175	175	175	175	175
Extra for power down feed to head	150	150	150	150	150	150	150

CHARD LATHES—TIMKEN BEARING

	16" x 5'	18" x 7'	20" x 7'	24" x 9'	28" x 9'
MANUFACTURING LATHE					
3 step plain head	\$1,675				
3 step back geared	1,840	\$2,445			
Multispeed, single pulley, 4 speeds	2,280				
Multispeed, motor drive, 4 speeds	2,525				
Multispeed, single pulley, 8 speeds	2,465	2,920	\$3,605		
Multispeed, motor drive, 8 speeds	2,690	3,230	3,810		
ENGINE LATHES					
3 step double back geared	2,095			\$4,695	\$5,245
4 step double back geared					
Multispeed, single pulley, 12 speeds	2,870	3,360	3,855		
Multispeed, motor drive, 12 speeds	2,965	3,460	3,925		
Extra for 2' of bed	116	120	130	180	190

GARVIN TAPPERS

No. 1 automatic tapper, belt drive	\$350
No. 1 automatic tapper, arranged for motor drive, no motor	400
No. 1 automatic tapper, arranged for motor drive, no motor, 3-speed gear box	470
No. 2-x automatic tapper, belt drive	590
No. 2-x automatic tapper, arranged for motor drive, no motor, 4-speed gear box	740
No. 2-BG automatic tapper, belt drive	695
No. 2-BG automatic tapper, arranged for motor drive, no motor, 4-speed gear box	845
No. 3-B heavy, automatic tapper, belt drive	795
No. 3-B heavy, automatic tapper, arranged for motor drive, no motor, 4-speed gear box	945

WHITNEY METAL TOOL CO., ROCKFORD, ILL.

SPECIAL PORTABLE BRAKES

Description	Size	Prices	
		Bench, skidded	Floor, skidded
Plain bending	4 feet, 20 gage	\$127.20	\$144
Box and finger	4 feet, 20 gage	147.20	164

Box fingers for box and finger style brakes per lineal inch net f. o. b., Rockford, Ill., \$1.68.

WHITNEY METAL TOOL CO., ROCKFORD, ILL.—Continued

WHITNEY-JENSEN BRAKES—PRICES

Size (feet)	12 gage	14 gage	16 gage	18 gage
4.....	\$320	\$240	\$220.00	
5.....	416	340	273.60	\$200
6.....	512	360	300.00	216
8.....	620	460	360.00	240
10.....	800	620	533.60	420

No. 75-1 duplex rolling machine with 1 set of Pittsburgh lock rolls, $\frac{3}{4}$ -inch pocket depth, \$752.50.
 No. 75-2 special duplex rolling machine with 1 set of Pittsburgh lock rolls $\frac{1}{2}$ -inch pocket depth equipped with hardened worms and bronze gear, \$955.50, net f. o. b., Rockford, Ill.

DISCONTINUED MODELS

No. 129 heavy duty punch, with motor.....	\$375.20
No. 129 heavy duty punch, without motor.....	325.50
No. 130 heavy duty punch, with motor.....	451.50
No. 130 heavy duty punch, without motor.....	402.50
No. 47-4' power press Whitney-Jensen brake with motor.....	1,200.00
No. 47-5' power press Whitney-Jensen brake with motor.....	1,475.00
No. 47-6' power press Whitney-Jensen brake with motor.....	1,775.00

Madison-Kipp mechanical feed oiler, for any of the above machines, if desired, \$48 each, net f. o. b., Rockford, Ill.

D. E. WHITON MACHINE COMPANY, NEW LONDON, CONN.

CENTERING MACHINES

No. 1 single spindle screw feed.....	\$200
No. 2 single spindle screw feed.....	250
No. 3 single spindle screw feed.....	300
No. 4 single spindle screw feed.....	350
4" single spindle lever feed.....	425
5" single spindle lever feed (light type).....	425
5" single spindle lever feed (regular).....	600
6" single spindle lever feed.....	650
7" single spindle lever feed.....	750
4" 2-spindle lever feed.....	450
5" 2-spindle lever feed.....	650
6" 2-spindle lever feed.....	725
7" 2-spindle lever feed.....	875
9" 2-spindle lever feed.....	1,175
4" 2-spindle revolving.....	900
5" 2-spindle revolving.....	1,225
3½" 2-spindle turnable.....	625
4" x 38" single spindle duplex.....	1,000
4" x 50" single spindle duplex.....	1,050
4" x 86" single spindle duplex.....	1,125
7" x 90" single spindle duplex.....	1,700
8" x 81" single spindle duplex.....	1,700

AUTOMATIC GEAR CUTTERS

No. 14.....	\$2,400
No. 15.....	(?)
No. 16.....	2,600
No. 24.....	2,200
No. 26.....	2,300

THE WICACO MACHINE CORPORATION, PHILADELPHIA, PA.

Wicaco standard internal precision grinding machine, 3,000 pounds..... ¹	\$6,000
Wicaco standard patented continuous oil grooving machine, belt driven, 900 pounds.....	1,250
Wicaco standard patented continuous oil grooving machine, motor driven, 975 pounds.....	1,375
Wicaco standard patented continuous oil grooving machine, arranged for motor drive, not including motor, 925 pounds.....	1,325

¹ Denotes price correction advised by manufacturer. Differs from that appearing in first edition of Prices of New Machine Tools.

WICKES BROS., SAGINAW, MICH.

WICKES STANDARD ENGINE LATHES

[Base price of machine includes: Quick change gears with power feed; compound rest; tool post; large face plate; Timken bearings on main spindle; small face plate; thread chasing dial; steady rest, standard; centers; wrenches]

	26" x 60"	30" x 60"	32" x 60"	36" x 60"
Swing over bed.....inches.....	26½	30½	32½	36½
Swing over cross slide.....do.....	14	19	19½	24
Distance between centers.....do.....	60	60	60	60
Net weight.....pounds.....	8,400	9,000	14,000	15,000
Weight, each additional 2 feet of bed.....do.....	550	550	700	700
Domestic shipping, weight.....do.....	9,700	10,400	15,000	16,500
Geared head, multiple V-belt motor drive (no motor).....	\$6,200	\$6,600	\$8,700	\$9,100
Bed, extra per 2 feet.....	220	240	300	325
Joining beds over 24 feet between centers.....	400	425	500	510
Carriage complete with apron, compound rest, and round tool post.....	1,100	1,200	1,300	1,400
Centers, regular, each.....	12	12	14	14
Chuck plate, fitted to spindle only.....	27	27	32	34
Chuck plate and chuck, fitted to spindle (no chuck).....	39	41	47	50
Face plate—large.....	50	54	60	68
Face plate—small.....	24	26	30	32
Pan, standard length bed.....	200	220	260	280
Pan, extra per 2 feet.....	30	32	40	42
Pump and tubing.....	140	140	160	160
Power angular feed to compound rest.....	400	420	480	500
Power rapid traverse.....	450	450	500	500
Raising in sand to swing 40 inches.....				580

WICKES HEAVY DUTY GEARED HEAD ENGINE LATHES, TRIPLE GEARED, FACE PLATE DRIVE

[Base price of machine includes: Power feed, through quick-change gears; compound rest with power angular feed and 4-stud tool holder; large face plate; steady rest, standard opening; centers; thread-chasing dial; arranged for motor drive with mechanical or electrical apron motor control; wrenches]

	42" x 60"	48" x 60"	60" x 96"
Swing over bed.....inches.....	44½	50	62
Swing over cross-slide.....do.....	32	38	50
Distance between centers.....do.....	52" 5"	52"	80"
Net weight, standard length of bed.....pounds.....	30,000	33,000	48,000
Weight, each additional foot of bed.....do.....	650	650	850
Domestic shipping weight.....do.....	33,000	36,000	51,000
Geared head, multiple V-belt motor drive (no motor).....	\$13,900	\$14,900	\$22,000
Extra for Timken bearings on main spindle.....	250	250	400
Bed, extra per foot.....	250	270	300
Joining beds over 30'6" long, per joint.....	650	700	800
Carriage, complete with apron, compound rest, and tool post.....	2,800	3,200	4,900
Centers.....	22	22	26
Face plate, steel instead of cast iron, extra.....	600	700	800
Face-plate jaws—Fitting only.....	75	85	100
Face-plate jaws fitted to face plate, 1 set of 4 (cast iron) ¹			
Face-plate jaws fitted to face plate, 1 set of 4 (steel) ¹			
Power rapid traverse to carriage and cross-slide.....	900	950	1,050
Rests:			
Follow rest.....	175	200	275
Full swing rest.....	200	225	260
Steady rest, standard, cast iron.....	250	300	400
Steady rest, standard, cast steel.....	800	800	800
Steady rest, oversize, cast iron.....	500	550	700
Steady rest, oversize, cast steel.....	1,000	1,100	1,400
Taper attachment.....	925	1,100	1,200

¹ Prices on application.

WILLIAMS, WHITE & CO., MOLINE, ILL.

HORIZONTAL BULLDOZERS

Machine size	Standard stroke	Die space crosshead forward	Face of crosshead	Weight machine	Price machine	Weight reverse	Price reverse
	Inches	Inches	Inches	Pounds		Pounds	
2	8	24	5 x 18	2,900	\$1,035		
21	14	24	5 x 29 1/2	4,600	1,574		
22	16	30	6 1/4 x 34 1/2	7,200	1,791		
23	16	30	7 x 39	9,500	1,930		
24	18	38	8 1/2 x 57	15,500	2,609	1,000	\$217
25	20	38	12 x 68	22,500	3,609	1,100	239
26	20	42	12 x 69	27,260	4,174	1,400	261
27	22	50	16 x 70	35,900	5,087	1,700	304
28	24	60	16 x 80	52,800	7,217	2,500	435
29U	28	72	36 x 20 x 108	107,000	17,087	With machine.	
30	36	82	40 x 24 x 118	230,000	32,609		

VERTICAL BULLDOZERS

SPECIFICATIONS

	No. 53	No. 54
Double back geared flywheel air clutch with spring set, air released brake, foot treadle, and inching button control. Air counterbalance, gear guards, 1 inch vertical adjustment of die space. Arranged for texrope belted motor drive.	\$4,130	\$4,826
Capacity, tons, distributed over face of ram at end of stroke.	16,000 pounds	23,000 pounds
Stroke of slide	12 inches	14 inches
Distance bed to slide, stroke down	26 inches	28 inches
Distance between housings	32 inches	41 inches

STRAIGHT SIDE TRIMMING PRESS

Size	4-OT-18	5-OT-24	6-OT-26	7-OT-28	8-OT-30
Capacity—tons	55	75	120	165	225
Shaft.....inches	4 1/4-6	5 1/4-7	6 1/4-8	7 1/4-9	8 1/4-10
Stroke.....do	5	4	5	5	6
Strokes per minute	45	40	37	30	26
Die space.....inches	12	15	15	19	21
Between housing	18	24	26	28	30
Ram face.....do	16 x 14	24 x 19	24 x 20 1/2	30 x 22 1/2	32 x 24
Bed area.....do	18 x 18	28 x 24	30 x 26	36 x 28	40 x 30
Opening in bed.....do	10 x 10	12 x 12	14 x 14	15 x 15	16 x 16

OUTER SLIDE

Die space.....inches	8	10 1/2	14 1/2	15	18
Stroke.....do	2	2 1/2	3	3	3
Throat.....do	3 1/2	4 1/2	5	6	7 1/2

MOTOR REQUIRED

Size	5	7 1/2	7 1/2	10	15
R. p. m.	6,000	9,800	16,500	22,000	32,000
Ship weight.....pounds	\$2,149	\$3,287	\$4,039	\$4,600	\$6,104
Price					

GENERAL SPECIFICATIONS

Main frames are one-piece, semisteel castings, heavily reinforced.
 Shafts are hammered forgings of steel of No. 1045 SAE specifications.
 Main shaft bearings are bushed with bronze.
 Single back geared. Main gears of the Nos. 4 and 5 presses are cast semisteel. Main gears of the Nos. 6, 7, and 8 presses are of cast steel.
 Automatic stop, steel jaw clutch.
 Fly wheel shafts are mounted in antifriction bearings.
 Arranged for direct texrope, belted motor drive.

WILLIAMS, WHITE & CO., MOLINE, ILL.—Continued

TIE ROD PRESSES

No. 6-S-26:		
Distance between housings.....inches	26	
Stroke.....do	6	
Adjustment.....do	3 1/2	
Die space.....do	13	
Strokes per minute.....inches	40	
Bed.....do	26 x 26	
Ram.....do	16 x 21	
Single geared—jaw clutch.		
Main shaft bearings bronze bushed.		
Fly wheel bearings antifriction.		
Texrope motor drive.		
Motor required, 10 hp., 1,200 r. p. m.		
Shipping weight.....pounds	22,550	
Price.....	\$5,217	

CRANK DROP HAMMERS

Size	No. 2	No. 3	No. 5A	No. 7A	No. 9A
Weight of ram.....pounds	250	350	600	950	1,600
Maximum weight lifted ram and die.....do	350	500	900	1,500	2,500
Distance between guides.....inches	12 1/4	12 1/4	16 1/4	20 1/4	24 1/4
Ram face.....do	14 x 11	12 x 13	16 x 13 1/2	20 x 14	24 x 17
Anvil seat.....do	12 x 14	12 x 16	16 x 19 1/2	20 x 25	24 x 25
Guides.....do	(1)	(1)	(2)	(2)	(2)
Drive.....do	(1)	(1)	(1)	(1)	(1)
Maximum lift.....inches	30	30	30	30	30
Strokes per minute.....do	70	60	60	60	60
Motor required.....horsepower			7 1/2	10	15
Shipping weight:					
Lifter only.....pounds	1,200	1,700	2,800	4,700	6,600
Anvil and parts.....do	4,400	6,000	12,400	19,300	25,000
Total.....do	5,600	7,700	15,200	24,200	31,600
Price:					
Lifter only.....	\$587	\$717	\$1,087	\$1,391	\$1,826
Anvil and parts.....	\$652	\$739	\$1,391	\$1,739	\$2,457
Extras:					
Ratchet type with steel-cut gear.....	50	65	125	150	225

- 1 Single V belt.
 2 Double V belt.
 3 Flat belt.
 4 V belt with motor bracket.

JUSTICE HAMMERS

Size	35-pound	55-pound	90-pound	130-pound	165-pound
Arranged for belt drive, including 1 pair of plain forging dies.....lb.	\$587	\$783	\$983	\$1,548	\$1,791
Weight.....lb.	1,525	2,600	4,500	7,100	8,800
Motor drive (texrope) without motor.....lb.	\$83	\$104	\$130	\$143	\$143
Motor required.....hp.	1 1/2	1 1/2	3	5	7 1/2
Export boxes.....r. p. m.	900	900	900	900	900
Weight.....lb.	\$90	\$160	\$115	\$140	\$170
	400	460	600	1,000	1,200

Anvil of the 35-, 55-, and 90-pound hammers is cast integral with frame.

BATES HAMMERS

Size	100-pound	300-pound	500-pound
Standard hammer, arranged for texrope, belted motor drive.....lb.	\$1,674	\$2,696	\$3,652
Weight.....lb.	5,600	9,500	13,200

WILLIAMS, WHITE & CO., MOLINE, ILL.—Continued

ROTARY SHEARS

Size.....	1/2-inch	3/4-inch	1-inch
Throat.....in.....	48	48	48
Standard machine, arranged for direct motor drive.....	\$5,739	\$7,835	\$11,304
Weight.....lbs.....	23,000	30,000	47,000
Motor required.....	15-1,150	20-1,150	25-1,150
Hp.—speed.....	5-1,150	5-1,150	5-1,150

HORIZONTAL PUNCHES

No. 2:		
Throat: 12 inches.		
Capacity: 1 inch through 1 inch.		
Price.....		\$2,248
Weight.....pounds.....		10,000
Extra for 24-inch throat.....		\$191

No. 3:		
Capacity: 1 1/4 inches through 1 inch.		
Throat: 12 inches.		
Price.....		\$3,304
Weight.....pounds.....		15,400

MULTIPLE PUNCHES

No. 35-A:		
Capacity: 130 tons.	Die space 14".	
Distance between housings: 4'2".	Ram length: 5'2".	
Stroke: 2".	Ram width: 10".	
Adjustment: 2".	Table length: 5'10".	
Throat: 8".	Table width: 17".	

Main shaft: Bearings bronze bushed.
 Flywheel bearings: Antifriction.
 Automatic stop-jaw clutch: Foot-treadle control.
 Texrope motor connections.
 Motor required: 7 1/4 hp., 1,200 r. p. m.
 Shipping weight: 26,350 pounds.
 Price: \$5,761.

NO. 11 C—FRAME PUNCH AND SHEAR

Capacity: 300 tons. 11.77". 2 1/2" through 1 1/2".
 Shears: Bars 11 x 1 1/2", rounds 3 1/4", angles 8 x 8 x 3/4", splits 1 1/2".

Overhead drive. Antifriction flywheel bearings. Ram pocket brass lined.
 Automatic stop-jaw clutch. Single geared. Gear cast iron with steel clutch face.

Stroke: 2 1/2".
 Die space: 13".
 Strokes per minute: 20.
 Motor required: 20 hp., 1,200 r. p. m.
 Ram: Face 10" x 23", Body 8 1/2" x 18".
 Table: Face 13" x 30", Hole 8 1/2" x 18".
 Counterbalance: Compression springs.

Throat	Single end	
	Shipping weight	Price
	Pounds	
18.....	33,000	\$5,287
25.....	43,000	6,070

WILLIAMS, WHITE & CO., MOLINE, ILL.—Continued

NO. 12 C—FRAME PUNCH AND SHEAR

Capacity: 200 tons. 8". 2 1/4" hole through 1 1/2".
 Shears: Bars 9" x 1 1/4", rounds 2 1/2", angles 6" x 6" x 3/4", splits 1 1/4".
 Overhead drive. Antifriction flywheel bearings. Ram pockets brass lined.
 Automatic stop-jaw clutch. Single geared. Cast iron gear with renewable steel clutch hub. Ram counterbalanced with compression springs. Direct geared motor drive with bakelite pinion. Gear guards standard equipment.
 Stroke: 2".
 Die space: Regular 12", high.
 Strokes per minute: 25.
 Ram: Face 8" x 21", body 6" x 15", body for adjustments.
 Table: Face 13" x 28", hole 3 1/2" x 14".
 Motor required: 15 hp., 1,200 r.p.m.

Throat	Single end		Throat	Single end	
	Shipping weight	Price		Shipping weight	Price
	Pounds			Pounds	
15.....	20,000	\$3,478	42.....	38,000	\$4,522
25.....	30,500	4,087	48.....	47,000	5,043
30.....	32,000	4,174	54.....	49,000	5,161
36.....	36,000	4,409	60.....	51,500	5,304

NO. 13 C—FRAME PUNCH AND SHEAR

Capacity: 137 tons. 5.50". 1 1/4" hole through 1".
 Shears: Bars 8" x 1 1/8", rounds 2 1/4", angles 6" x 6" x 1/2", splits 1 1/4".
 Overhead drive. Antifriction flywheel bearings. Ram pockets brass lined.
 Automatic stop-jaw clutch. Single geared with cast iron gear with renewable steel clutch hub. Ram counterbalanced with compression springs. Direct geared motor drive with bakelite pinion.
 Stroke 2".
 Die space: Regular 12", high.
 Strokes per minute: 25.
 Gear guards standard equipment.
 Ram: Face 7" x 19 1/2", body 5 1/4" x 14", body for adjustment
 Table: Face 13" x 25", hole 3" x 12".
 Motor required: 10 hp., 1,200 r.p.m.

Throat	Single end		Double end	
	Shipping weight	Price	Shipping weight	Price
	Pounds		Pounds	
15.....	15,375	\$2,635	25,000	\$5,375
20.....	21,200	3,243		
25.....	22,500	3,313		
30.....	24,000	3,391		
36.....	30,000	3,709		
42.....	32,500	3,835		
48.....	39,000	4,187		
54.....	41,000	4,404		
60.....	43,000	4,622		

NO. 14 C—FRAME PUNCH AND SHEAR

Capacity: 100 tons. 4". 1 1/4" hole through 1".
 Shears: Bars 7" x 1", rounds 2", angles 6" x 6" x 3/8", splits 1".
 Overhead drive. Antifriction flywheel shaft bearings. Ram pockets lined with brass. Automatic stop-jaw-type clutch. Single geared with cast iron main gear with renewable clutch hub. Counterbalanced ram with compression springs. Direct geared motor drive with bakelite motor pinion. Gear guards standard equipment.

WILLIAMS, WHITE & CO., MOLINE, ILL.—Continued

NO. 14 C—FRAME PUNCH AND SHEAR—continued

Stroke: $1\frac{1}{4}$ ".
 Die space: Reg. 11", high.
 Strokes per minute 25.
 Ram, standard: Face 6" x 8", body $4\frac{1}{2}$ " x 13". Adjustable face. Ram body.
 Table: Face 13" x 25", hole 3" x 12".
 Motor required: $7\frac{1}{2}$ hp., 1,200 r. p. m.

Throat	Single end		Throat	Single end	
	Shipping weight	Price		Shipping weight	Price
	Pounds			Pounds	
12.....	10,700	\$2,417	36.....	22,500	\$3,013
15.....	11,500	2,461	42.....	24,000	3,087
20.....	15,500	2,670	48.....	27,500	3,261
25.....	16,750	2,730	54.....	28,500	3,348
30.....	18,000	2,791	60.....	31,000	3,478

NO. 14½ C—FRAME PUNCH AND SHEAR

Capacity: 78 tons. 3.12". 1" through 1".
 Shears: Bars 6" x $\frac{7}{8}$ ", rounds $1\frac{1}{4}$ ", angles 6" x 6" x $\frac{1}{4}$ ", splits $\frac{3}{8}$ ".
 Overhead drive. Antifriction flywheel shaft bearings. Ram pockets lined with brass. Automatic stop-jaw-type clutch. Single geared. Cast iron main gear with renewable steel clutch hub. Direct geared motor drive with bakelite motor pinion. Gear guards are standard equipment.

Stroke $1\frac{1}{2}$ ".
 Die space: Regular 10", high.
 Strokes per minute: 25.
 Motor required: Single: $7\frac{1}{2}$ hp., 1,200 r. p. m. Double: 10 hp., 1,200 r. p. m.
 Ram, standard: Face $5\frac{1}{2}$ " x 15", body. Ram for adjustment: Face, body.
 Table: Face $10\frac{1}{2}$ " x 20", hole 3" x 6".

Throat	Single end		Throat	Single end	
	Shipping weight	Price		Shipping weight	Price
	Pounds			Pounds	
12.....	9,500	\$2,165	42.....	20,000	\$2,883
15.....	11,500	2,322	48.....	20,500	2,913
20.....	13,200	2,439	60.....	22,000	3,304
25.....	16,500	2,670	72.....	30,000	3,700
30.....	18,000	2,761			

NO. 15 C—FRAME PUNCH AND SHEAR

Capacity: 50 tons. 2. $\frac{3}{4}$ " through $\frac{3}{4}$ ".
 Shears: Bars 5" x $\frac{3}{4}$ ", rounds $1\frac{1}{2}$ ", angles 4" x 4" x $\frac{1}{4}$ ", splits $\frac{3}{4}$ ".
 Antifriction flywheel shaft bearings. Automatic stop-jaw-type clutch. Single geared. Cast iron main gear with renewable steel clutch hub. V-belt drive motor connection with motor mounted on adjustable bracket attached to main frame. Grooves for V-belts are cut in face of flywheel. Gear guards are standard equipment.

Stroke: $1\frac{1}{4}$ ".
 Die space: Regular $10\frac{1}{2}$ ", high.
 Strokes per minute: 30.
 Motor required: 5 hp., 1,200 r. p. m.
 Ram: Face $4\frac{1}{4}$ " x 13", body. Ram for adjustment: Face, body.
 Table: Face 8" x $16\frac{1}{2}$ ", hole 3" x 5".

WILLIAMS, WHITE & CO., MOLINE, ILL.—Continued

NO. 15 C—FRAME PUNCH AND SHEAR—continued

Throat	Single end		Throat	Single end	
	Shipping weight	Price		Shipping weight	Price
	Pounds			Pounds	
8.....	5,500	\$1,470	30.....	11,000	\$1,887
12.....	6,000	1,513	36.....	11,500	1,922
18.....	8,000	1,670	54.....	17,000	2,348
25.....	9,000	1,748	60.....	18,000	2,435

NO. 17 C—FRAME PUNCH AND SHEAR

Capacity: 30 tons. 1.20". $\frac{5}{8}$ " through $\frac{5}{8}$ ".
 Shears: Bars 3" x $\frac{1}{2}$ ", rounds $1\frac{1}{2}$ ", angles $2\frac{1}{2}$ " x $2\frac{1}{2}$ " x $\frac{1}{4}$ ", splits $\frac{1}{2}$ ".
 Antifriction flywheel shaft bearings. Automatic stop-jaw-type clutch. Single geared. Cast iron main gear with renewable steel clutch hub. V-belt drive motor connection with motor mounted on adjustable bracket attached to main frame. Grooves for V-belts are cut in face of flywheel. Gear guards are standard equipment.

Stroke: 1".
 Die space: $10\frac{1}{2}$ ".
 Strokes per minute: 35.
 Motor required: 2 hp., 1,200 r. p. m.
 Ram: Face $3\frac{1}{4}$ " x 10".
 Table: Face 8" x 13".
 Table: Hole 2" x 3".

Throat	Single end		Throat	Single end	
	Shipping weight	Price		Shipping weight	Price
	Pounds			Pounds	
8.....	3,700	\$1,148	30.....	7,400	\$1,409
12.....	4,000	1,174	36.....	8,000	1,452
20.....	5,200	1,252	42.....	10,000	1,609
25.....	5,900	1,304	48.....	10,800	1,696

THE YODER COMPANY, CLEVELAND, OHIO

Machine

Sheet Slitters:

Size:	
2" x 18".....	\$1,821
2" x 36".....	2,267
2½" x 18".....	2,352
2½" x 36".....	2,911
3" x 18".....	3,171
3" x 36".....	3,690

Horizontal Boring Mill:

3" table type.....	9,850
AC-1 Cut-off Machine.....	1,850
AC-2 Cut-off Machine.....	2,100
AC-3 Cut-off Machine.....	5,200
K-90 Power Hammer.....	1,210
LK-90 Power Hammer.....	1,060

ZEH & HAHNEMANN COMPANY, NEWARK, N. J.

Mechanical Power Presses

RECLINABLE, OPEN BACK AND HORN PRESSES—ROLL AND DIAL FEEDS

	No. 36-2	No. 36-3	No. 36-4	No. 36-4½	No. 36-5	No. 36-6	No. 36-7	No. 36-8½	No. 36-10
Reclinable presses:									
Plain.....	\$231	\$289	\$420	\$473	\$578	\$840	\$1,103	\$2,520	\$3,800
Geared.....		475	630	710	840	1,130	1,420	2,950	
For razor blades.....		375							
			No. 1-1	No. 1-1A	No. 1-2B	No. 1-3	No. 1-6	No. 1-8	No. 1-11
Open back presses:									
For bench.....			\$165	\$185	\$205	\$350	\$780	\$1,600	\$3,400
With legs and table.....			190	210	230	525	1,040	2,000	3,900
Geared.....			205	225	250				
Type "S" for bench.....			230	250	275				
With legs and table.....									
					No. 2-2	No. 2-3	No. 2-4	No. 2-5	
Horn presses:									
Without table.....					\$290	\$330	\$450	\$680	
With screw adjustable table.....					335	380	550	880	
Gearing extra.....						175	200	250	
		No. 1 and 2	No. 3 and 4	No. 5 and 6	No. 5-3	No. 5-4	No. 5-5	No. 5-6	Razor blade feeds
Roll feeds:									
Plain.....		\$110	\$195	\$235	\$330	\$440	\$540	\$625	\$250
Geared.....		135	220	265					
		No. 1 and 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	
Dial feeds: Standard.....		\$200	\$275	\$300	\$330	\$440	\$540	\$625	

ARCH, PUNCHING, DRAWING AND REDUCING PRESSES—SPRUE CUTTERS

		No. 3-4	No. 38-5	No. 38-5B	No. 3-6			
Arch presses:								
Plain		\$400	\$625	\$700	\$1,100			
Geared		600	900	950	1,375			
		No. 7	No. 4-6	No. 4-2	No. 4-4	No. 4-5	No. 4-6	No. 4-7
Punching presses:								
Plain for bench		1 \$185	\$185			\$525	\$650	\$950
Plain on floor stand			205	\$255		675		
18" throat "A"							825	
22" throat "B"					\$550			
24" throat "B"						250	275	300
Gearing extra								
						No. 37-5	No. 37-5A	No. 37-7
Sprue cutters:								
Plain						\$550	\$650	\$1,020
Geared								1,320

NOTE—All plus 5 percent with the exception of those with 1.

ZEH & HAHNEMANN COMPANY, NEWARK, N. J.—Continued

ARCH, PUNCHING, DRAWING AND REDUCING PRESSES—SPRUE CUTTERS—Con.

						No. 4-4B										
Selective multiple die punching press.....						\$750										
	No.5-1	No.5-2	No.5-3	No.5-4	No.5-5	No.5-6										
Double action presses:																
With spring lift.....	\$450	\$550	\$600	\$800	\$975	\$1,375										
With cam lift.....				900	1,075	1,475										
Gearing extra.....			175	200	250	275										
					No. 6-7	No. 6-8										
Double action, pillar type:																
Spring lift, plain.....																
Cam lift, geared.....					\$2,400	\$3,000										
						No. 31-10										
Drawing and reducing press.....						\$5,500										
					No. 20-4	No. 20-7										
Screw reducing press.....					\$2,300	\$3,500										
NOTE—All plus 5 percent with the exception of those with 1.																
STRAIGHT SIDE, TOGGLE, TUBE PRESSES																
				No. 7-5	No. 7-6	No. 7-7										
Straight side presses (wedge adjustment):																
Plain.....				\$800	\$1,000	\$1,200										
Geared.....					1,275	1,600										
	No.8-4	No.8-5	No.8-6	No.8-7	No.8-8	No.8-9	No.8-12	No.8-14								
Straight side presses (screw adjustment):																
Plain.....									\$650	\$700	\$900	\$1,150	\$1,500	\$2,200		
Geared.....									850	950	1,175	1,450	1,850	2,600	\$4,400	\$5,500
						No.9-6	No.9-7	No.9-9	No.9-11	No.9-12	No.9-16					
Pillar presses (tie-rod construction):																
Plain.....						\$875	\$1,425	\$2,300								
Geared.....						1,150	1,725	2,700	\$3,500	\$5,000	\$7,000					
						No. 23-7	No.23-10	No.23-12								
Pillar toggle presses:																
Plain.....						\$1,200										
Geared.....						1,500	\$2,500	\$2,900								
						No. 39-7	No.39-12	No.39-14								
Tube presses:																
Standard.....						\$1,750	\$3,800	\$4,950								
Attachments.....						600	1,200	1,500								
				No. 25-7	No.25-10	No.25-26	No. 24-7									
Toggle presses:																
Tie-rod construction.....				\$1,275	\$2,600	\$11,000										
Gap type:																
Plain.....							\$1,100									
Geared.....							1,400									

ZEH & HAHNEMANN COMPANY, NEWARK, N. J.—Continued

DOUBLE CRANK PRESSES

		No. 10-2	No. 10-3	No. 10-4	No. 10-5	
Double crank presses (solid frame):						
Plain.....		\$330	\$650	\$900	\$1,100	
Geared.....				1,150	1,400	
			No. 11-4	No. 11-5	No. 11-6	
Double Crank presses (overhanging):						
Plain.....			\$720	\$1,100	\$1,400	
Geared.....				1,400	1,700	
		No. 12-7	No. 12-9	No. 12-11	No. 12-12 :	No. 12-16 :
Double crank presses (built-up type):						
Size A.....	\$1,550	\$3,100	\$3,900	\$7,300		
Size B.....	1,890	3,450	4,300	7,900		\$10,560
Size C.....	2,080	3,900	4,850	8,450		11,440
Size D.....	2,600	4,325	5,600	9,000		12,320
Size E.....		4,750	6,450	9,850		14,080
Size F.....						15,400
Gearing extra.....	350	450	500			
				No. 13-5	No. 13-6	
Double crank presses (overhanging) (built-up type):						
Plain.....				\$1,275	\$2,000	
Geared.....				1,575	2,300	

¹ Made back geared only.

PATENT, PERCUSSION POWER PRESSES

	No. 5	No. 7	No. 8½	No. 10	No. 12	No. 16	No. 20	No. 25	No. 30
Air control.....				\$3,200	\$4,200	\$6,300	\$11,000	\$22,000	\$30,000
Mechanical control....	\$800	\$1,200	\$2,200	3,750					
	No. 14-7	No. 14-8½	No. 14-10						
Type 14, pillar.....	\$1,260	\$2,400	\$3,100						
Pneumatic ejector.....	215	300	400						
	No. 16-1	No. 16-3	No. 17-5	No. 16-8½	No. 16-10				
Type 16, gap.....	\$330	\$550		\$2,300	\$3,150				
Type 17, horn.....			\$750						
	No. 38-1	No. 38-3	No. 38-5						
Type 38, pen raising.....	\$530	\$750	\$950						
	No. 28-1	No. 28-3	No. 27-5	No. 27-7	No. 27-7A	No. 27-7C			
Hand screw presses: Standard.....	\$185	\$265	\$525	\$630	\$690	\$785			

All prices are for standard equipment, f. o. b. Newark, N. J. and subject to change without notice.

COLUMBIA UNIVERSITY LIBRARIES

This book is due on the date indicated below, or at the expiration of a definite period after the date of borrowing, as provided by the rules of the Library or by special arrangement with the Librarian in charge.

DATE BORROWED	DATE DUE	DATE BORROWED	DATE DUE
JAN 10 1946	JAN 16	DEC 22 '58	
APR 11 1947	4/22	JAN 10 '58	
OCT 7 1949	5/9		
MAY 26 1955	5/24		
BOOKS CIRCULATE FOR 2 WEEKS, ARE DUE ON DATE STAMPED BELOW.			
FINES OF \$1 A DAY FOR EACH DAY THEREAFTER IF NOT RETURNED OR RENEWED.			
	JUL 7 - 1955		
	JUL 20 1955		
	AUG 4 1955		
	AUG 24 1955		
	SEP 7 1955		
	SEP 23 1955		

C28(1141)M100

COLUMBIA UNIVERSITY LIBRARIES



0044267622

D321

2ln 341

MSH 03209

NEH

SEP 01 1994

JAN 27 1944

D321

Un341

U.S. Office of price administration.
tion.

Prices of new machine tools as
of March 1, 1941.

JAN 9 1946 H. Yarnum
Jan 16 2775 Sedgwick

APR 1/21 1946 and 8/1 JAN 2 1946
4/22 5/11 1946
R. H. Gordon
Sedgwick

APR 11 1947
4/25 20 Myrtle St. Rutherford, N.J.

5/18 1948
RR NEILL
OCT 10/21 1948 170 Waverly NY 10

F. G. McDonald
MAY 26 1955 208 Rich Ave
JUL 7 - 1955 H. Verman, N.Y.
Ren-

JUL 20 1955
AUG 4 1955 11

Renewal

~~UG 24 1955~~

~~SEP 23 1955~~

~~DEC 22~~

G. ALBIN

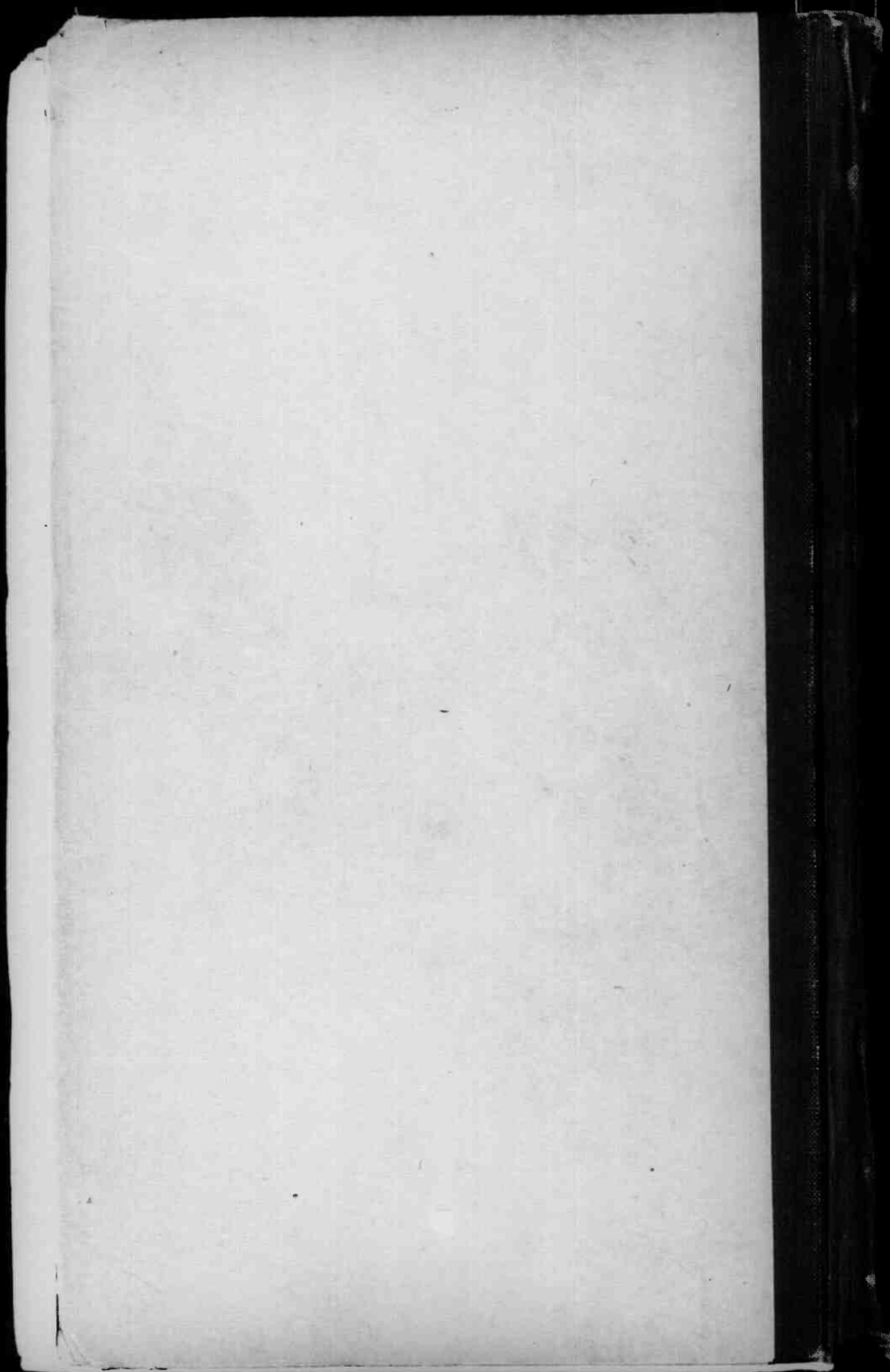
ROOM 409 EAG

DEPT OF HEALTH

Pd/23

~~JAN 26 '59~~

Staff



END OF
TITLE